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THE

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VOL. II.—11TH YEAR. SYDNEY: SATURDAY, JULY 19, 1924. No. 3.

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Listerian Oration.[1]

DEFORMITIES OF THE ALIMENTARY TRACT.

By F. A. HADLEY, F.R.C.S. (England),
Honorary Surgeon, Perth Hospital.

I FEEL deeply the great honour which you have bestowed upon me by your invitation to give the Listerian Oration tonight.

Oddly enough I look upon myself as a member of Lord Lister's large family of surgical grandchildren, in that I was House Surgeon to Watson Cheyne who, in his turn had been House Surgeon to Lister and who luckily had the gift of passing on to his juniors some of the enthusiasm he had himself gained from the great master. I have now given you my only right to stand here tonight.

I have felt a grave responsibility, firstly, to find some subject in which I hope I may interest you and secondly, to try to exonerate your committee for having thus selected from one of the junior States.

I presume also the title "Oration" implies something more than a mere paper. It should embrace a wider subject and if possible enunciate a principle.

The principle which I wish to illustrate, is that in order that the best clinical work may be produced, it is necessary for the experts of all branches of medical and biological sciences to keep constantly in touch one with another.

I cannot help feeling that there is a tendency in London and other teaching centres to separate the schools from the hospitals. The advantage gained by the pooling of funds for more elaborate equipment may prove to be out-balanced by the separation of the workers in the sciences from those carrying on clinical work.

Adelaide has the great advantage of having the University and the Hospital close together. Also it has a heritage for learning, for I understand the colony was originally founded with the object of affording cultured people opportunity to live together in a harmonious interchange of their respective philosophies.

Choosing deformities of the alimentary tract for my subject, I have determined to sketch to you my wandering thoughts as day by day and through the passing years they have been influenced now by some particular case, now by some generalization of past cases, now by some paper or book that I have read.

[1] Delivered at a meeting of the South Australian Branch of the British Medical Association on May 29, 1924.

It has always appeared to me that once student days are over those of us who carry out clinical work, are separated by too deep a chasm from the physiologists and anatomists who gave us our first education. Surgeons, physicians, pathologists and bacteriologists have long been working together with the result that not only have gross pathological lesions become comparatively easy to diagnose, but their treatment has more or less been standardized on what appear to be sound lines. It is comparatively common in all great hospitals to see the exponents of these branches of medical science in friendly discussion over a case either in the theatre itself or in a ward or corridor, but how often is the physiologist or biologist met with in such places.

It is obvious that a surgeon who now finds a way into the innermost recesses of the human body, must have a clear picture of his anatomy always before him. The orthopædist who has gained a well-earned place in the surgical sunlight during the last few years, is entirely dependent upon his intimate anatomical knowledge and upon his own and others' experiments. Physiology is not so easy to learn. Does the average surgeon know the normal workings of abdominal organs? If not, how can he know what is abnormal? Luckily there is much abdominal surgery which is undertaken for definite pathological conditions, and on these we make our reputations.

Please do not for a moment think that I am making an attack upon the teaching capacity of physiologists. Students in these days have the most wonderful opportunities and indeed a very high percentage of the greatest teachers in the world have been and are physiologists. Rather I deplore that we who deal in clinical work, come so little in contact with these master minds.

An immense amount of experimental investigation has been done on the physiology of digestion. The names of the pioneers alone are too many to mention and in the present day many who hold chairs of physiology, are carrying out active work in this direction; but in order that the world should gain the full benefit of their labours the physiologist and the clinician should be exploring hand in hand. In the wards experiments are practically always ready to hand. Often, however, this material is wasted or the clinician is forced to draw his own conclusions from his cases, but he is perhaps apt to observe them through the coloured glass of desire. Little is known of the actual after effects of many operations which all the same have become standardized, such as various forms of gastrotomy, gastro-enterostomy, resections, plications *et cetera*. There are common but often unpleasant phenomena of the abdomen which may happen in an apparently healthy individual and, however, are difficult to explain.

I have lately read an excellent little book on abdominal pain by Ortner. Besides showing that similar pains are caused by different diseases, he shows that some degree of almost every type of pain may be found at times in normal or apparently normal people. In fact only rarely can pain by itself give us more than a shrewd guess as to the condition inside. Trousseau used to teach that half of the so-called stomach pains have their origin in the intestine. Yet it is more often than not pain which brings these patients to us. Often we feel inclined to give ourselves the soothing opiate contained in the word hysteria and often no doubt we can rid these patients of their symptoms by wise words. For after all pain depends upon the readiness of the higher brain at any particular moment to appreciate the message. Hence a man in moments of excitement may not feel a severe wound. This according to Langdon Brown is a provision of Nature, inherited from our earliest ancestors, perhaps the Therapsida of the Triassic period, from whom Professor Wood Jones traces the human race. The object of the provision is to prevent any of our powers of offence or defence being rendered nugatory by the distraction of agony. Conversely Nature has provided us with the power to appreciate pain in order to warn us to protect or cure ourselves. A new pain blunts an old one, therefore the Greeks burnt a foot to cure a stomach ache. Morphine acts in the same way by dulling our higher receptivity to afferent impulses. But if the causes of those impulses remain, pain recurs when the effect passes off or when the words of wisdom are forgotten. It is our duty, therefore, to get rid of the cause of the afferent impulses and not to be satisfied with only using anodynes, whether drugs, words, cold douches or the big drum of the itinerant tooth puller.

There are people who either by inheritance or training are able to ignore many sensory impulses and feel little pain, and most of the conditions I am about to discuss would give these people hardly any trouble. Many people, however, have their lives rendered miserable and useless by them and they expect help from us. Possibly the reason why some apparently congenital defects first give symptoms when the patient has reached the age of thirty is because the receptive faculty has increased with practice and distracting influences are less. But there is another reason which to me brings a feeling of great responsibility and which we are tempted to put aside. It is that no part of the body remains stationary. All parts react to environment and strain. Any congenital or acquired malformation will probably increase and the parts finally become useless for their original purpose. Mis-shape becomes fixed, mucous membranes and their glands waste and become infiltrated with fibrous tissue and perhaps above all the visceral branches of the vagus and sympathetic from long disuse become permanently useless. Therefore, if we act up to our responsibility, we must make the effort to cure deformity in its early stages.

Stomach.

I hope you will bear with me if, beginning at the upper end of the alimentary track, I discuss some of those problems with which I have been personally faced. It will be a very imperfect catalogue, but the gaps you will fill in from your various experiences. My object, if I may be bold enough to

say so to such an audience, is to stimulate investigation so that treatment may become based on physiological and biological lines. In no one of the conditions I may mention, can I say: "This which I have done, is without doubt the best thing to have done."

I am beginning with the stomach, often a much maligned organ whose eccentricities are discussed as much or even more by the laiety as by the profession. In apparent rude health it will play tricks and in ill-health, often as a result of disease in quite another part of the body, it may behave in a most irregular manner. Hence the great difficulty in making a diagnosis.

A word about its physiology. Its morphology is now well known. In many ways it appears to be a compound organ as in some animals, the cardiac end and body serving a different function to the pyloric antrum. The type of glands and the muscular arrangement are also different in the two parts and X-ray observation has shown that they work independently of one another, although in health their actions are correlated one with another. I can, however, find no authenticated case of congenital double stomach in the human subject.

Pavlov has proved by direct experiment that the stomach is partly under the influence of the subconscious mind. The ordinary affairs of life, such as sorrow or overwork, illustrate the truth of this to us daily and Venables working with persons in the hypnotic state has demonstrated the power of suggestion.

But to what extent the subconscious mind acts under normal conditions is unknown. Izod Bennett and Dodds using the Einhorn tube have recently made experiments upon normal people and have demonstrated that the glands secrete well, without the knowledge afforded by the mouth and sense organs. Incidentally they found a considerable percentage (about 2%) of apparently normal people (medical students) who never secrete hydrochloric acid at all.

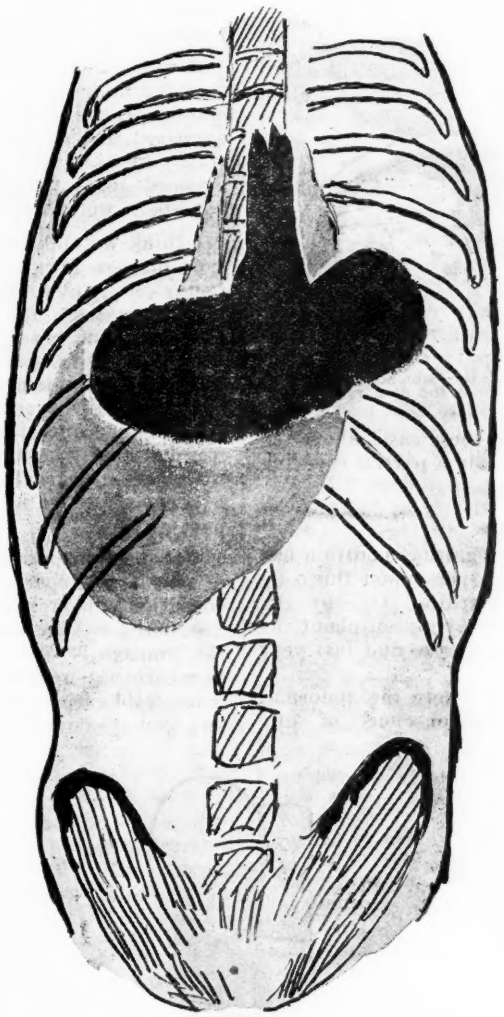

FIGURE I.
Showing thoracic position of the stomach with the cardia above the diaphragm.

It has been shown that it can secrete after division of the vagus and the greater part of the sympathetic. This is an important fact, for otherwise resection of the stomach would be fraught with greater disabilities than it is. Pannett has divided the vagus branches by an operation he describes as a circumcision at the cardiac end, with great improvement of the emptying power by removal of inhibition; and Proust has similarly attempted the division of the sympathetic at the pyloric end, reporting reduced pain in ulcers.

It appears that much of the stomach activity is controlled by a short reflex within itself. Goltz, Ewing, Bayliss and Starling have all experimented along this line.

We do not know for certain whether the presence of superfluous hydrochloric acid is the natural stimulant starting an emptying reflex. Also it does not appear to me to be proved whether regurgitation of alkaline duodenal secretion into the stomach at the end of the cycle is normal or not.

With all this work done on secretion little seems to have been done on the question of motility, especially on such actions as that of sudden dilatation. We have no satisfactory explanation of this phenomenon, bugbear as it is to the surgeon. I have known a fatal case with sudden onset to occur two years after a cholecystectomy and I had the opportunity of examining the organ within one hour of death. It must surely be due to some short reflex and the success attending the use of the stomach tube points to the irritant being of local origin in the stomach itself. The duodenum may also become suddenly and acutely dilated.

Turning now to abnormalities, a thoracic position of the stomach is met with occasionally in childhood and is not incompatible with life, although it nearly always causes symptoms (see Figures I. and II.). The gap in the diaphragm may be big. Operation through the chest wall has proved more likely to succeed than one from below. Unlike the accidental

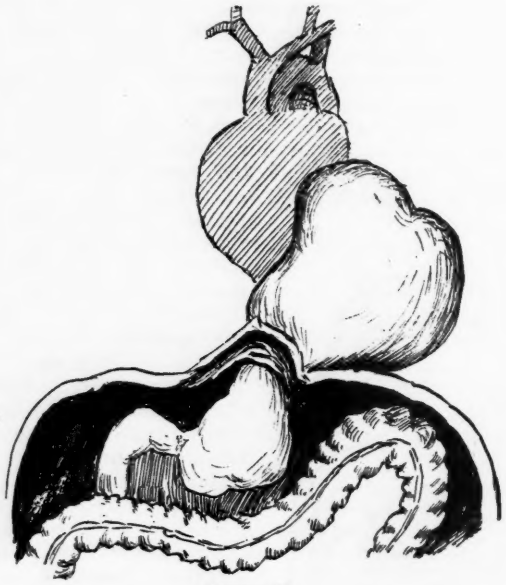

FIGURE II.
Showing thoracic position of the stomach with three-quarters of the organ above the diaphragm.

form, the œsophagus enters in these cases above the diaphragm and there may be only a partial covering of peritoneum over the organ.

Gastroptosis.

Gastroptosis now a well recognized condition has long interested me. Several papers upon this subject have been read in Australia. One by Dr. Stawell, thirteen years ago, one by myself about the same time, one later by Dr. Ambrose and last year one by Dr. McKillop.

The first difficulty is to say where the abnormal begins, for many persons unconscious of any trouble, have very drawn out, J-shaped stomachs and we must remember that in fœtal life before rotation takes place, so that the right side becomes posterior and before new attachments have formed suspending the pylorus and fixing the duodenum, the stomach is shaped in the J-form and lies with the short limb more or less forward. Like other congenital malformations gastroptosis may be found in several members of the same family. Figure III. depicts one of mother and daughter and another of brother and sister, aged twelve and eleven years respectively.

A case which we observed for years, revealed the stomach hanging low in the pelvis and yet on one single occasion in the whole series of screenings it appeared well shaped and above the umbilicus. But whilst we were still watching through the screen, it dropped to its usual position. Operation would have been well in time in this case.

I think we must clearly differentiate between the type of case in which the stomach condition is a factor on its own, even though other abnormalities may be present, the whole fœtal life having been unstable, and two other groups, namely: (i.) Glenard's disease, in which every abdominal organ is lacking in supporting bands. This condition is probably a throwback, as our farmer friends would say, to some ancestral prone forms before the body was habitually kept upright. (ii.) A general proptosis occurring with lax abdominal muscles, which to a certain extent is almost universal in the latter part of life.

Possibly some of the first group cases are a sequel of congenital hypertrophic stenosis, for in this latter condition (the terrors of which have been greatly dissipated by the Rammstedt operation) although the stomach is more often than not not dilated, yet in a certain percentage it is dilated. There must be many mild cases which escape early recognition and yet form the jumping off point for later troubles.

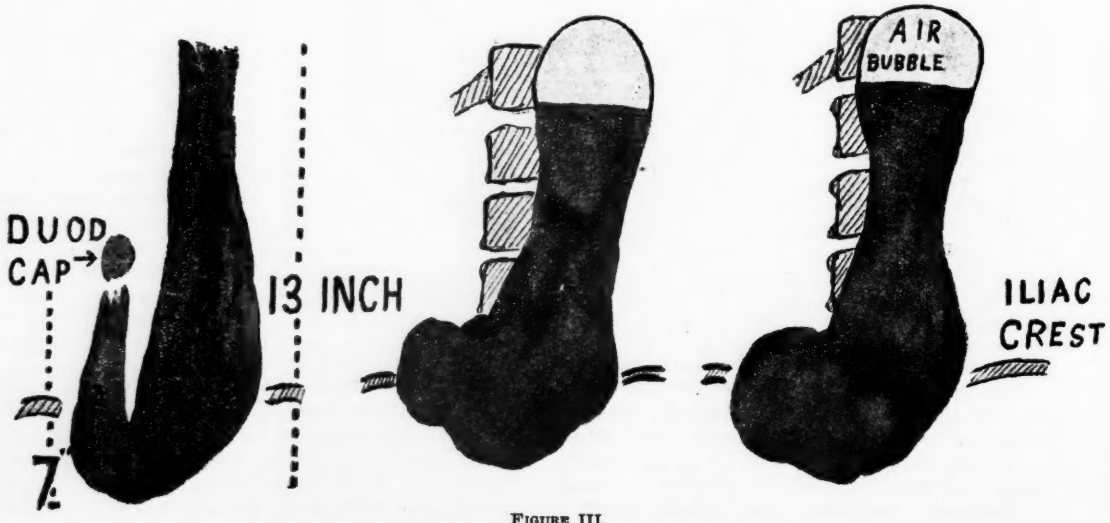

FIGURE III.
Showing congenital gastroptosis in several members of the same family.

These, however, are probably of the low hanging dilated form rather than the true congenital J-shape.

In passing I may mention that there is a form of true congenital stenosis in which there is no hypertrophy and in which the mucous membrane instead of being in corrugations is quite thin and unsuitable for the Rammstedt manœuvre.

Returning to gastroptosis, a name, by the way, which I do not like as it does not suggest a congenital origin, but it is, however, better than "watertrap" which only describes a symptom, but has come rather into vogue. Evidence is indeed rapidly accumulating, since X-ray examinations have become common in children, to prove the condition to be congenital.

Symptoms rarely appear before young adult life and are progressive. Incoordinate nervous reflexes are present and the longitudinal muscular fibres do not play their part. Later these muscles become almost paralysed, stretching and secondary atrophic changes occur, the cardiac end dragging out to a mere tube.

Common sense seems to indicate that some definite attachments must be given for the weak longitudinal muscles to obtain a *point d'appui*. The gastro-hepatic omentum is too thin and poor to be of any real value. The falciform ligament is, however, handy and is very strong. With a little ingenuity and by partly incising its free edge it can be applied and attached to the whole lesser curvature and thus holds this well up under the liver.

The stomach by the time these patients are operated upon, is mis-shapened as well as unsupported. Plication carefully placed overcomes this. I do not claim that plication remains permanently, but for a time it may act as a "cock-up" splint does in a dropped wrist and give the stretched muscles a rest in the position of least tension.

Using this combination I have had several complete successes. One patient made a good marriage with a brave naval officer, but, no doubt, in her case, her system no longer requiring the whole output of her energy in the inherited response to the emotion of fear, could spare some for her digestion.

But as we cannot count on this method of treatment, it occurred to me that if we could temporarily throw the pyloric spincter out of action, the rest of the stomach, no longer under the inhibiting reflex of a contracted pylorus, would empty itself more quickly, the pylorus being probably contracted whilst its owner is in a state of fear. I have, therefore, in two cases added a modified Rammstedt operation and have been very pleased with the result. It requires but a few minutes to divide the peritoneal and muscular coats of the pylorus longitudinally and to sew them up transversely. The pylorus, however, is not always contracted; in fact it is sometimes dilated. This addition is therefore only occasionally indicated.

McKillop at last year's Congress described what appears to be an excellent modification of Rovsing's operation using kangaroo tendon to attach the stomach to the anterior wall. He reports excellent results. The Rovsing principle does not appear to me to be physiological. Mechanically it no doubt works, but even then it presupposes a life spent mainly lounging back in armchairs and not leaning over washtubs. The motility of the stomach must be interfered with by this operation and I feel inclined to reserve it for cases in Group III., possibly also Group II.

Before leaving the stomach I want again to call attention to the idea that the pyloric antrum works apart from the main body of the stomach and is mainly a force pump between two parts of the digestive tract in which there is a normal delay of the contents whilst specialized digestion takes place in them. This leads me to consider which is the best place to make the stoma in gastro-enterostomy. If it were made truly in the antrum, it would only come into action when the stomach has sent some of its digested contents forward. If it is made further away from the pylorus, the contents will drop through whenever the circular fibres contract and so open the stoma. On the other hand, in this latter position the alkalinization of the stomach cavity is more likely to occur and this is probably the main value of the operation for ulcer cases. I take it that sometimes we do the operation with the object of overcoming pyloric obstruction and at other times of bringing alkali into the stomach.

This idea also makes us meditate when intending to perform pyloroplasty such as Horsley's, an operation for which I have developed a considerable partiality owing to the pleasing results it has afforded me.

Duodenum.

Following on with the duodenum, we first note that this is an organ intended for delaying the passage of its contents. Two-thirds of it is fixed by nearly half its circumference. The *valvulæ conniventes* are very numerous and large. The pancreatic secretion and bile is poured in at the top of its most fixed part and there is probably a sphincter action in the jejunum close to or at its commencement. This spot also is the first to become fixed in the fœtus which points to the necessity of delay even low down in the vertebrate scale.

Next the movable part is the part which has to deal with the acid stomach contents to be ejected probably with some force against its upper right border, its freest border. They cannot stay there long. Possibly congenital bands sometimes found here may favour the production of duodenal ulcer.

In regard to its physiology, the production of secretion apparently requires the presence of acid. There is, however, the anomaly of those persons who never secrete acid.

Surely then a pyloroplasty must be on sounder physiological lines than a gastro-enterostomy for pyloric stenosis. Of late I have been tending more and more to use this comparatively simple operation well described by Horsley and have so far never regretted my action. Convalescence has proved very smooth. I have followed up some cases and the result has been most satisfactory.

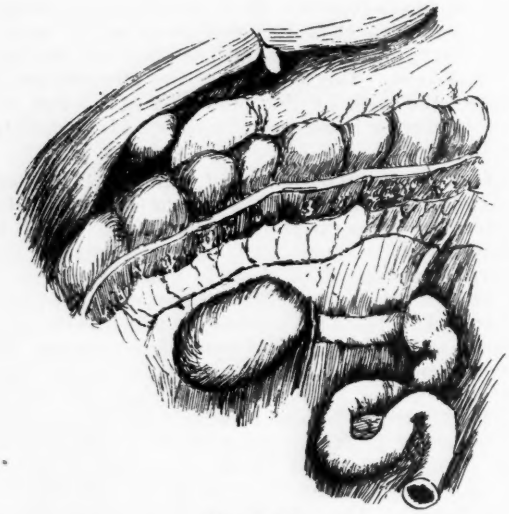

FIGURE IV.
Showing the third part of the duodenum obstructed by the superior mesenteric vessels.

A word about narrowing of the lumen towards the end of the duodenum with dilatation of the upper part and of the pylorus. Since my attention was first called to this condition some six years ago, I have, I believe, come across several cases and it appears to me to be a definite pathological entity which has come to stay.

On examination after opening the abdomen one notices that the stomach and duodenum appear to be continuous. The pylorus cannot be felt and its position is only marked by the vessels. The second part of the duodenum is distended to the right and on turning up the transverse colon, the first half of the third part can be seen bulging through the transverse meso-colon (see Figure IV.).

Before I recognized this condition I am afraid I

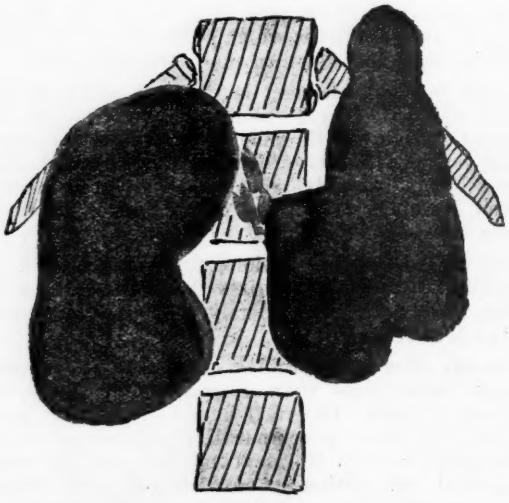

FIGURE V.
Showing chronic dilatation of the duodenum in child.

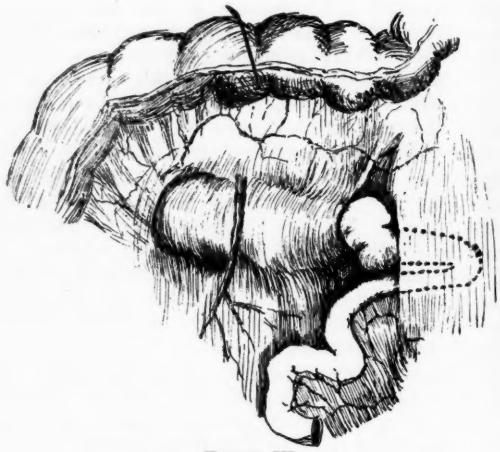

FIGURE VI.
Showing jejunum obstructed by congenital membrane.

performed some gastro-enterostomies on these patients with worse than useless results. In two I have later undone this evil deed (only one was of my own doing). He was and still is a personal friend of mine.

Most probably the constriction is in most cases caused by the drag of the superior mesenteric vessels, when the mesentery of the small intestine has been dragged down. On the other hand the constriction may have begun in fœtal life as this part of the foregut is the first to be passed under

FIGURE VII.
Showing the last ten centimetres of the ileum without a mesentery.

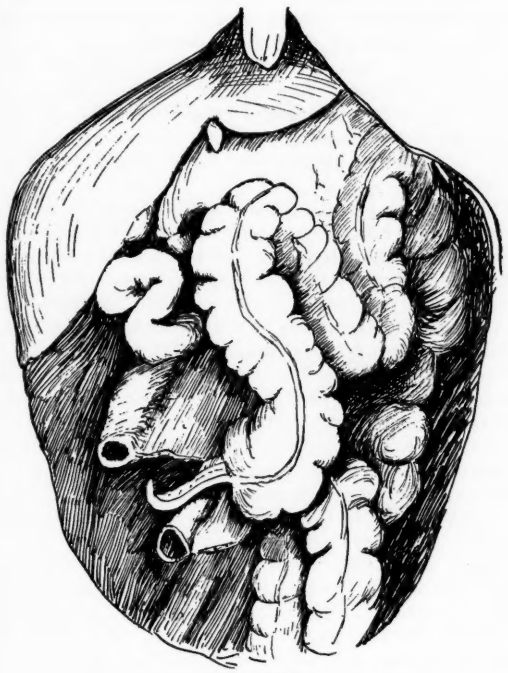

FIGURE VIII.
Showing the small intestine lying to the right and the large intestine to the left.

and against the umbilical vessels and with the atonic state arising under the various strains of later life, has become intensified. These people suffer pains as severe as those caused by the average

FIGURE IX.
Showing the non-rotated infantile ileum entering the colon from the right.

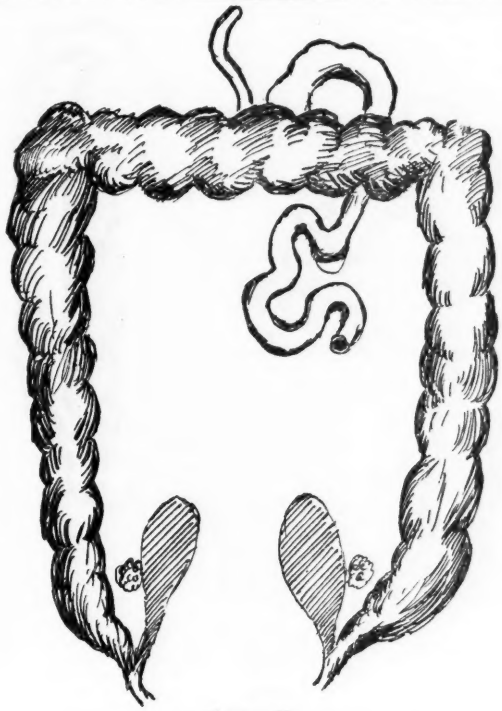

FIGURE X.
Showing double colon in a mammal with two separate openings on the buttocks.

duodenal ulcer, the symptoms of the two conditions being similar. The patients have constant indigestion and the pains no doubt are due to spasms in

FIGURE XI.
Showing double colon of the shot-gun type in a mammal with two caeca and bifurcation of the ileum.

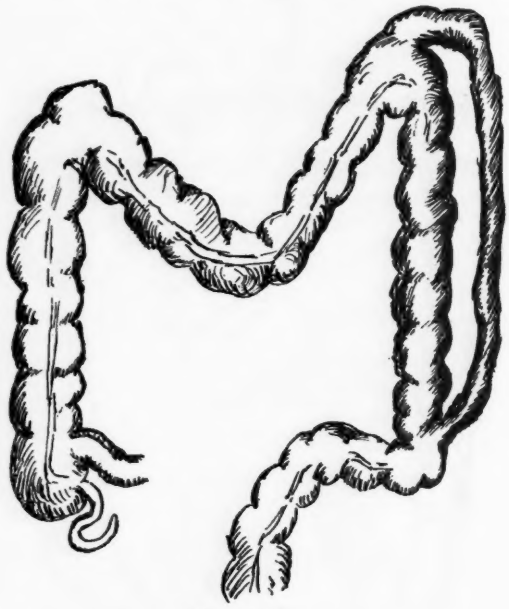

FIGURE XII.
Showing double descending colon in the human subject.

the effort to pass the obstruction. Their pains, however, are not in such constant time relation to the taking of food and their stomachs may be obviously dilated. The skiagram gives as a rule a good picture of the dilated duodenum. The diagram in Figure V. shows a case of chronic dilated duodenum in a child of four years.

I know of no method of overcoming the constriction but an anastomosis between the part which bulges through the transverse meso-colon and the upper jejunum; it gives splendid relief. Owing to the deep and fixed position of the duodenum, it is not a very easy operation, but still is quite feasible without the aid of any apparatus such as Murphy's buttons, which beside the danger of their regurgitating into the stomach, might bruise the underlying pancreas.

I have noted that these people are apt to have long mesenteries of other parts, so that I believe the condition to be primarily congenital, even when due to the vessels. I personally have met no other abnormal duodenal condition, not counting ulcer and new growth, but congenital atresia or narrowing by a diaphragm has been described in the second part. Also pouches, sometimes multiple, have been fairly frequently reported.

The jejunum has points of surgical interest. As I have already mentioned there appears to be some sphincteric action at its commencement and specialized nerve tissue has been demonstrated here. It this be so, we may look out for irregular reflex behaviour. Apart from this the supporting folds of peritoneum, some of which contain unstriped muscular fibres such as the ligament of Treitz, are very variable and sometimes I believe cause kinks. I have on two occasions found the first seven and a half centimetres (three inches) bound down with a sharp hairpin turn to the posterior wall and in one of these cases I short-circuited across with relief of symptoms (see Figure VI.). I have also found both tuberculosis and carcinoma active at this spot. In these cases the spasm, pain and a tender spot to pressure have given some suspicion before operation.

On opening an abdomen some time after gastro-enterostomy has been performed, I have several times noted the large size and thickened walls of the first twenty-five centimetres (ten inches) of jejunum. It appears to be capable of taking an active part in digestion. I may note here that some Brunner's glands are found in the first few centimetres. According to Professor Apperly in his recent paper it possesses the power of anti-peristalsis returning with force its contents quite up to the pylorus or into the stomach in gastro-enterostomy. An old patient of mine, about three-quarters of whose stomach I had removed, carried on digestion well for five years and, being Italian by birth, was very partial to salads.

These facts may count for the happy results of jejunostomy, an operation which in the future may prove of great value in the treatment of stomach lesions. There appears no reason why with the present knowledge of the chemistry of digestion these patients should not be fed with proteins already partially hydrolysed and their fats already emulsified.

FIGURE XIII.
Showing the appendix in an infant at birth.

FIGURE XIV.
Showing the appendix of an opossum.

Jejunum and Ileum.

The remainder of the small intestine presents many interesting matters for consideration and study. It has often struck me when returning coils, sometimes much distended, that the surgeon is lucky that they seem to have the inherent ability of finding their right place without tying themselves into knots. It has also interested me to observe peristaltic contractions now of this part, now of that; sometimes many centimetres being contracted at one time, sometimes only one centimetre, this latter making me think for a moment that it must have just been released from under a band. Again how quickly a loop will become distended and heavy and give a feeling of œdema in its walls whilst under observation. Or how extraordinarily few symptoms have been exihibted by patients in whom coils of intestines are adherent together or to a small area to the abdominal wall or uterus. One would have expected the rhythm of peristalsis, if such ever exists, to have been broken at this spot. Some interesting work showing these different wave lengths has been recently carried out. It reveals that the circular and longitudinal muscles have different wave lengths. Indeed we know little about the true cause of colics. We cannot say where the pain originates and often we feel in doubt whether we are observing some form of entero-spasm or the colic of an obstruction. How often can we diagnose a small intestine ring carcinoma. Further practical tests are required as these cases if acute are hardly suitable for a series of bismuth X-ray exposures. I have hopes that urine tests may prove of value. At present I admit that when I enter my hand into an abdomen in which I expect small intestine trouble, I try to have at my finger tips the long list of possibilities. Bands, adhesions, internal herniæ, vagaries of Meckel's diverticulum, new growths, congenital deformities and so forth and hope that I may be able to find and deal with the cause of the symptoms. This state of affairs does not seem to me to be satisfactory.

The last few centimetres of the ileum present problems of their own. They differ developmentally, as they belong to the hind gut and therefore have a different blood and nerve supply. In consequence of being behind the vitelline vein and artery, its rotation during development is opposite to that of the rest of the small bowel and is very liable to variations. One of these which I have myself met with three times and which must therefore be comparatively common, is for the last ten centimetres (four inches or more) to have no mesentery and to be as firmly attached to the posterior wall as the fixed part of the duodenum (see Figure VII.). This is very confusing to find when operating. Certainly in one case there were definite obstructive symptoms attached to it. There were other abnormalities as well.

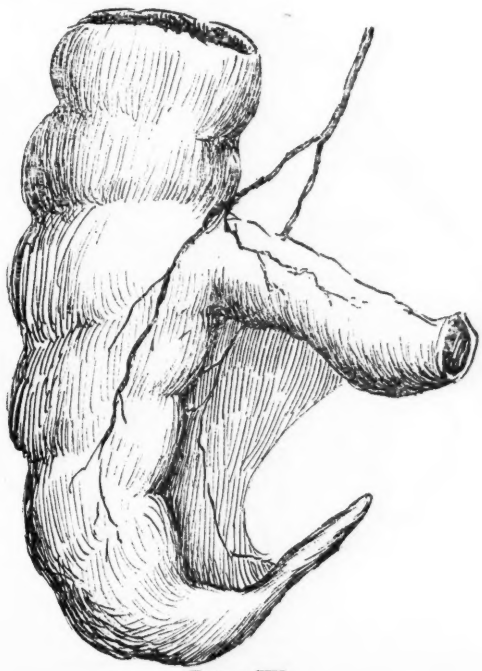

FIGURE XV.
Showing appendix of a kangaroo.

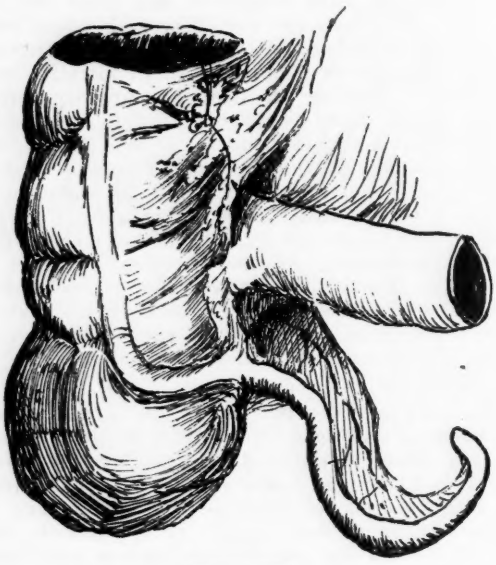

FIGURE XVI.
Showing common form of appendix in man.

This part of the bowel ends with a sphincter. Dr. Rutherford's observations prove this to be most efficient. Occasional permanent exceptions to this rule have been demonstrated radiographically. It has also been shown by X-ray examination that the lower part of the ileum contracts rhythmically and ejects with force semi-fluid contents. The lower part of the ileum is another of the "hold-up" spots and much water is absorbed in its terminal part.

FIGURE XVII.
Showing four possible positions of ileum and ascending colon in the presence of a long free mesentery. The four possible positions are pivoted at X.

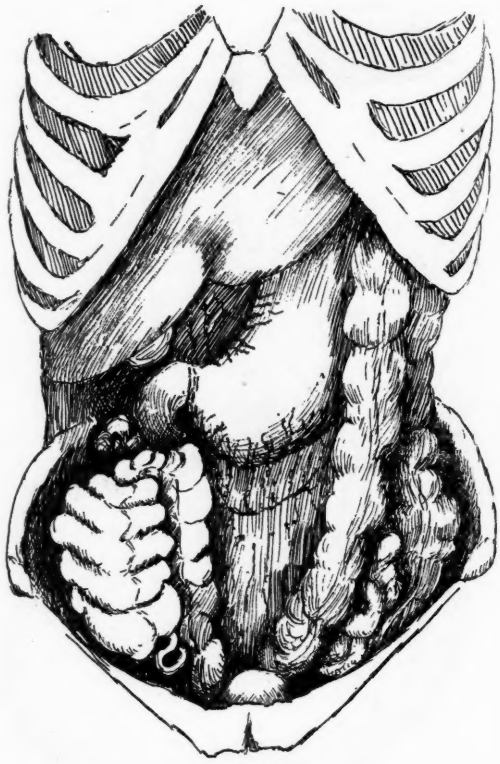

FIGURE XVIII.
Showing concertina condition of the ascending colon.

The Caecum, Appendix and Ascending Colon.

Next come the caecum, appendix and ascending colon. The anatomy of these may vary through great extremes owing to arrest of development at various periods of intra-uterine life. For example, the caecum and ascending colon may be in the central line, as in the third month of intra-uterine life, with the small intestine to the right of them (see Figure VIII.) or the caecum may be under

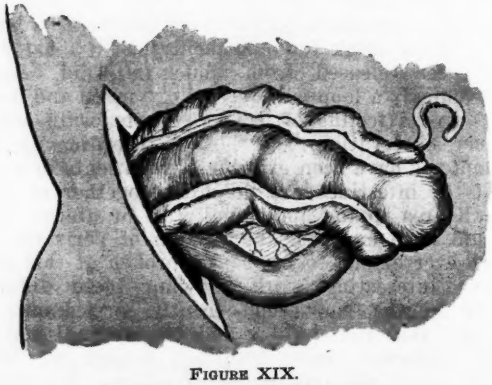

FIGURE XIX.
Showing floating dilated caecum.

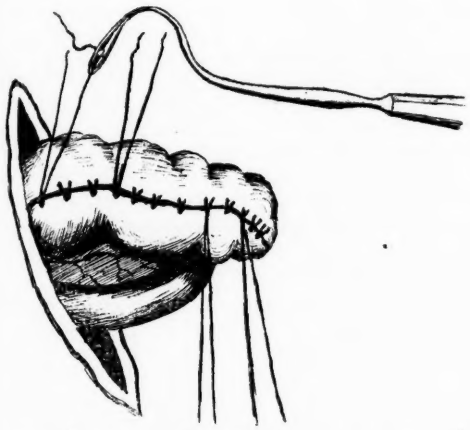

FIGURE XX.
Showing method of operating on floating dilated caecum. The tænia have been brought together and the lumen of the bowel reduced. The needle is threaded with the long sutures and pushed through the flank.

the liver or if down, may not have rotated to the right so that the ileum enters from behind or even from the right (see Figure IX.), conditions which may lead to some confusion when dealing with acute appendicitis. Or there may be a reversion to some form which occurred in our early mammalian ancestors or there may be a double colon (see Figures X., XI. and XII.). I have seen one case (see Figure XII.). For an explanation of this condition I can only suggest some form of double fœtation. There is no embryological explanation. A difficulty, however, is that usually the second is an exact replica of the first. The length of the appendix varies greatly, but the average for infants is hardly more than half of that for ten years and upwards. The shape also changes, the infant's being at the end of the caecum which tends to end in a funnel continuous with the lumen of the appendix (see Figure XIII.). Compare the appendices of the seventh and ninth month fœtus with those of the opossum and kangaroo respectively (see Figures XIV. and XV.). Later in childhood the caecum, itself primarily a bulge from the side of the hind gut, bulges to the outer side and the appendix appears to come off its inner side (see Figure XVI.). The lumen decreases and probably loses its function. One can picture the value of a mucin-secreting organ at the apex of a contracting caecum helping to prevent the adherence of faeces to its lining. Such adherence is common in dilated caeca.

The caecum and ascending colon may have a long free mesentery. This allows them not only to be found in other parts of the abdomen, but also to twist upon their long axis giving various degrees of volvulus and abdominal pain (see Figure XVII.). Also, probably due to their lack of supports, they lose much of their propulsive force and are unable to lift a heavy mass upwards against gravity. I might point out that the only parts of the intestinal tracts which are very mobile, namely the ileum and the jejunum, are also the only parts which are called upon to deal with completely liquid contents. Note how well supported are the stomach, duodenum, descending colon and rectum.

Congenital ptosis of the caecum into the pelvis may be found in children. I have seen skiagrams of two brothers with it. They gave symptoms of auto-intoxication and pain.

Undoubtedly the ascending colon and caecum are often allowed by lack of these natural supports to be folded down like a concertina (see Figure XVIII.). Such a condition must interfere with their normal activities. I shall not labour this condition as I had the temerity to read a paper on the subject at the Congress, at Melbourne. But I firmly believe that it is the cause of much discomfort, often of ill-health from stasis and sometimes of complete invalidism through changes taking place in the caecum. These changes lead to its dilatation, with thickening of its walls, lack of its normal contractility and finally to colitis and ulceration. If recognized early and it can be both by symptoms and photography, a very simple operation I believe will correct it (see Figures XIX. and XX.).

I would like to point out that the greater part of the dilatation of the caecum takes places in its outer wall and that if the anterior and external longitudinal bands are plicated together, the pendulous part is found to have almost disappeared. To fix the ascending colon in its place I take a few cutgut stitches attached to longitudinal bands and using a MacEwen's hernia needle

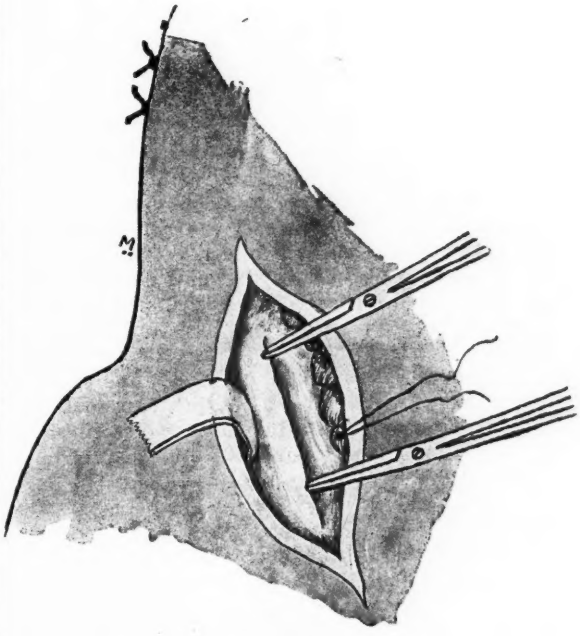

FIGURE XXI.
Showing a later stage in the operation for floating dilated caecum. The cut ends of the sutures anchoring the hepatic flexure to the flank may be seen. The fold of peritoneum in the iliac fossa has been incised and lifted up.

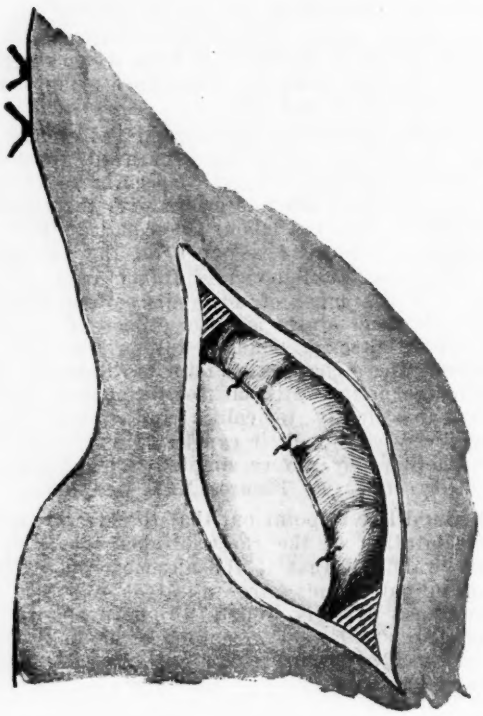

FIGURE XXII.
The last stage in the operation for floating dilated caecum. The peritoneal flap has been attached to the caecum.

pass them out through the flank muscles just under the ribs, cutting down on to the points of the needle; the long ends are then tied over the external aponeurosis.

Although one would expect the adhesions thus formed would be too weak to last, yet the patients, now numbering a good many, whom I have followed up, have remained cured of their symptoms. I think this is because I am only assisting Nature to do what she has been attempting to do herself. In order to fix the caecum I also incise the parietal peritoneum in the iliac fossa and raising a fold, sew it to the caecum, after the manner described so ably by Waugh (see Figures XXI. and XXII.).

The Transverse Colon.

The transverse colon may have various forms. One cannot help believing that a long U-form (sometimes this U only involves the first half or there may be a prolapse of the whole, so that it lies in the pelvic basin) must add difficulties to its proper working and should be corrected when possible (see Figures XVIII. and XXIII.). The splenic flexure may be rigidly fixed against the diaphragm causing obstruction to flatus. Anastomosis gives relief in some cases. Somewhere about its centre there is probably a sphincter action and indeed the right half at normal times acts with the ascending colon and caecum and together they have both forward and retrograde movements of peristalsis. The left half and descending colon probably only contract at occasional times, filling up the sigmoid. The latter in health contracts and passes its contents on to the rectum at certain periods of the day which are more or less fixed by habit. The rectum ought to give the necessary demand for emptying as soon as it is filled.

Keith found collections of nerve element tissue specially located at certain spots, namely the pylorus, the beginning of the jejunum, the ileo-caecal region and the upper part of the descending colon. He considers that peristalsis and sphincter action are controlled by these areas, although they are also under the influence of reflex stimulation. It is perhaps suggestive that spasm occurs more in these areas than in other parts of the intestine. Hyperaction of the transverse colon centre would mean constipation. It would be interesting to try the effect of excising such areas.

I think that we do not know enough about the physiology of the colon. Experiments with animals, even with monkeys, can tell us little about the modern man with his cooked and selected food. It habitually contains bacteria and these are probably not merely parasites, but fulfill some useful function. In the wards from time to time we have excellent cases on which such work could be carried out. As an example, I have just had under me a

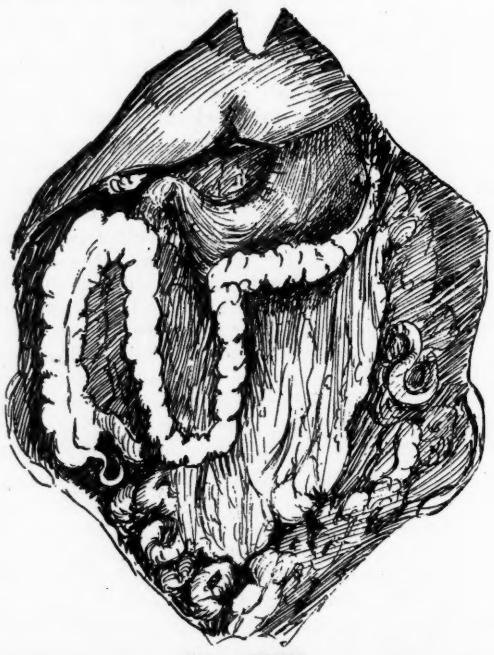

FIGURE XXIII.
Showing long U-form of the transverse colon. The first half of the loop is liable to become twisted and the angle is probably at the spot where the function changes.

man upon whom a caecostomy had been performed for obstruction. When again admitted I found a ring carcinoma at the splenic flexure. I made a colostomy at a point in the transverse colon which I hoped would be just distal to this hypothetical sphincter. Later I removed the remainder of the transverse and the whole of the descending colon and at another sitting anastomosed the sigmoid to the transverse colon just proximal to my hypothetical point. At first all the fæces which were of formed consistency, came out of the colostomy opening, but as time went on only a small portion and that at intervals was squeezed out, the remainder passing into the sigmoid. Some months later I closed the colostomy and now the man appears normal.

All sorts of experiments could be performed by a physiologist in such a case. Another suitable case was that of an old lady who had lived for eleven years with a sigmoid colostomy. I anastomosed the transverse colon to the upper end of the rectum, dividing it and closing the distal end after removal of a few centimetres. The isolated descending colon was thus to hand for experiments with absorption and aperients. Some such case is nearly always available in a big hospital.

We shall skip the descending colon except to mention that it is peculiarly liable to congenital narrowing. One such case came under my personal care and cure was effected by anastomosis. I have already referred to a case of double descending colon.

The Sigmoid and Rectum.

We now come to the sigmoid and rectum, two parts which are correlated in function, but which often sadly fail to do their duties satisfactorily. As I have said the rectum should be empty except for a short time before defæcation. My observations have made me think that it has the power to return

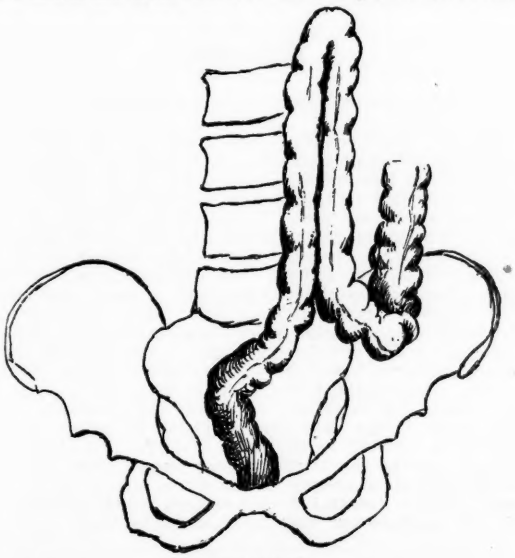

FIGURE XXIV.
Showing long loops of the sigmoid which is liable to become twisted.

FIGURE XXV.
Showing large bowel in Hirschsprung's disease.

the contents to the sigmoid when the desire to defæcate is repressed. In the habitually constipated, however, it looses its propulsive power and becomes ballooned. X-ray observations of opaque meals and enemata may give unreliable information, as the bismuth or barium is not needed for nutriment and may therefore be dealt with in a different manner to normal intestinal contents.

Certain deformities, apart from those acquired through chronic inflammation, such as Lane's first and last bands, are frequent in the sigmoid. Firstly the loop may be very long, like an elongated U rather than an S (see Figure XXIV.) and such a loop may twist upon itself at times and give pains. And this quite apart from the more exaggerated form, namely the acute volvulus. Skiagrams depict very long loops in some children.

In a young man, an almost complete invalid on account of abdominal symptoms, a U-shaped sigmoid with limbs thirty-five centimetres (fourteen inches) long was found. There was no distension nor thickening of the walls, neither was there evident constipation, but the condition caused acute

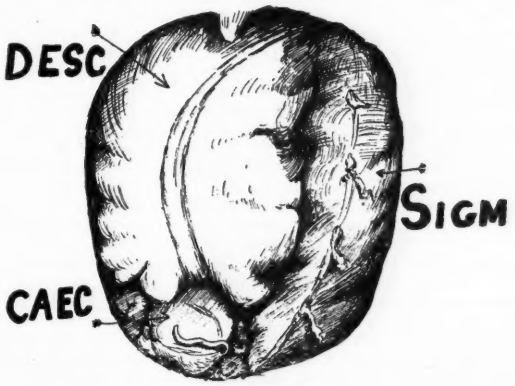

FIGURE XXVI.
Showing large bowel in Hirschsprung's disease.

pains on most exertions. Lateral anastomosis with removal of the greater part of U gave a good result.

Hirschsprung's disease is, I feel sure, a condition quite apart from this (see Figures XXV. and XXVI.). It is still *sub judice*. I will not enter into the discussion of the treatment. No rules can at present be laid down and on the whole all forms of treatment are unsatisfactory. I once anastomosed the small intestine to an enormous thick walled sigmoid, filling the whole abdomen. The motions afterwards were frequent, in fact it set up diarrhœa. However, the patient only lived a few months. There is no doubt that this condition may spread to the whole colon and even into the small intestine.

I have taken you on a trip down the great intestinal river, down its smooth reaches, round its bends, examining the luxuriant flora on its banks, looking up the openings of the tributary streams which add their quota of various waters, noting its placid back waters and pointing out its many shoals and sand banks.

Like the great river of some nation, it is the supplier of the essentials of life as well as being the means of removing its drainage and waste products. Therefore its engineers must see to it that its channel is kept in every way free and that such fouling of its water as must occur, should be kept within check and rendered innocuous.

I hope that the voyage has not been without some interest, even though the scenes are so familiar to you.

Reports of Cases.

A CASE OF CONGENITAL HYPERTROPHIC PYLORIC STENOSIS WITH BILE IN THE VOMITUS.

By J. SHEDDEN DAVIS, M.D. (Sydney),
Honorary Assistant Surgeon, Royal Alexandra Hospital for Children, Sydney;

With Comment

By MARGARET HARPER, M.B. (Sydney),
Honorary Physician, Royal Alexandra Hospital for Children, Camperdown, Sydney.

S.W., male, born on July 5, 1923, was the first child of its parents. It gained 0.67 kilogram (one and a half pounds) during the first four weeks, but the time when it ceased to gain was not noted. From the third week onwards green motions appeared. These became more frequent in the fourth week. Vomiting had been noted latterly as "occasional," but was not a serious complication till the age of four and a half weeks. For the last half week no food was retained in the stomach.

The baby was first seen by me at the age of five weeks in consultation with Dr. Van Someren. The baby was then very emaciated, weighing only 2.25 kilograms (five pounds), his birth weight. Despite an attempt to control the vomiting by ordinary measures, he was still rejecting all food. The vomit had been yellow in colour. He could retain boiled water, but that for a couple of hours only. We washed out his stomach at once, but he returned the fluid immediately, together with a large number of yellow stained flakes of mucus. In view of the presence of bile in the vomit, considerable hesitation was felt in making a diagnosis of hypertrophic stenosis of the pylorus, despite the definitely projectile character of the vomiting. No tumour was to be felt (the baby was crying incessantly) nor were any peristaltic waves seen, this being probably due to the inability of the stomach to retain enough fluid to distend it. The next day he went to "Tressillian" with his mother, where careful observation convinced Dr. Margaret Harper that his condition must be one of pyloric stenosis despite the presence of bile in the vomit.

Late on August 13, 1923, three days after I first saw him, he was submitted to operation, the pyloric tumour which was about 1.75 centimetres by about 1.25 centimetres in diameter, being dealt with by Rammstedt's method. Vomiting ceased at once and after a stormy day or two progress was steady.

At the time of writing, the child is a healthy boy of eight kilograms (eighteen pounds) weight.

The special interest of the case lies in the presence of bile in the vomit. Otherwise the history and findings were not unusual. The point was not proved by chemical tests, but all who saw the colour, were satisfied as to its nature and indeed it would be hard to say what would be likely to simulate it in so young a baby.

Comment.

During the twenty-four hours this baby was under observation at "Tressillian," he vomited seven times, five of the vomits being projectile. On each occasion the vomited material appeared bile-stained. During the night he was given small quantities of whey and breast milk. This he retained until morning, when he seemed to return as much as he had taken during the night in one large projectile vomit. There was obviously an obstruction to the passage of food from the stomach and the infant's condition was such that operation seemed to offer the only chance of recovery. The differential diagnosis between duodenal obstruction and pyloric stenosis was rendered difficult by the presence of bile in the vomited material. Edmund Cautley[1] says that the symptoms of duodenal obstruction "are practically the same as those of congenital hypertrophic stenosis of the pylorus, unless bilious vomiting is also present." Still,[2] however, in discussing pyloric stenosis says: "Occasionally in spite of the situation of the obstruction in these infants, bilious material has appeared in the vomit. This is rare, but it is of interest as showing that the closure of the pylorus is not continuous." In the case of this infant his condition did not warrant the extra exposure and delay entailed in a radiographic examination.

References.

[1] Edmund Cautley: "Duodenal Stenosis," *The British Journal of Children's Diseases*, April-June, 1919, page 65.
[2] G. F. Still: "Congenital Hypertrophy of the Pylorus," *The British Medical Journal*, April 7, 1923, page 579.

Reviews.

SKIN DISEASES ILLUSTRATED.

DR. B. BURNETT HAM has produced an interesting "Synoptic Chart of Skin Diseases."[1] All the common and some of the less common skin diseases are tabulated as well as demonstrated on two coloured charts. The table is divided into ten columns. The first of these shows on which of the two charts the particular disease will be portrayed. The next column gives the name of the disease and in the succeeding columns follows a short account under the headings synonym, description, ætiology, common sites, irritation, diagnosis, note and treatment. In all there are thus tabulated seventy-seven lesions besides fourteen types of syphilitic rashes and the exanthemata. The coloured charts, two in number, depict the anterior and posterior views of a man. Each is about half a metre long and displays the full figure. On these at the various sites common to the particular disease is a representation in colour of what the lesion actually looks like in real life. There can thus be seen on the charts the various lesions that may enter in the differential diagnosis. The whole idea is an excellent one, but it is doubtful if such a chart will by its short-cut method improve our knowledge of dermatology.

[1] "A Synoptic Chart of Skin Diseases for the Use of General Practitioners and Students," by B. Burnett Ham, M.D., D.P.H.; 1923. London: H. K. Lewis and Company, Limited; Royal Folio, pp. 8, with two coloured plates. Price: 12s. 6d. net.

The Medical Journal of Australia

SATURDAY, JULY 19, 1924.

Illegal Operations.

THE Council of the Victorian Branch of the British Medical Association have recently had occasion to remind the members of the staff of the Melbourne Hospital of a resolution of the Royal College of Physicians of London concerning the inviolability of information gained in the course of practice. It appears that the Coroner for Victoria requested or perhaps ordered the members of the resident staff of the hospitals to report all cases to the police when an illegal operation is suspected. In some of our capital cities the police in a very laudable but over-anxious effort to cope with a widespread and horrible traffic, endeavour to prosecute energetic inquiries concerning every woman known to have aborted or miscarried. In their zeal they forget that a medical practitioner is not a detective and that the medical profession has irrevocably resolved to refrain from giving information that has been gained in the course of medical practice. Every person who consults a medical practitioner, must be able to place implicit reliance on him and know that no secrets will be divulged under any circumstances. Men have been committed to prison for contempt of court because they have adopted this attitude. If the courts insist on their legal rights, there is no alternative. Hateful as the abortionist's crimes are, the doctor to whom the victim appeals for help, must respect her confidence and must do what he can to mitigate the effects of the unnatural interference with pregnancy. Only when his patient consents is he justified in disclosing facts that have come to his knowledge in the course of his attendance on her. Although all this has been stated and published over and over again, it seems to be necessary to repeat it from time to time for the credit and protection of young graduates and their patients.

The zealous action of the police is at times not properly tempered with caution. Not every woman whose pregnancy terminates before full time, has been the subject of a criminal interference. The police often pester women who have had an abortion or miscarriage as a result of some trauma or pathological process. In certain places this excessive activity has become so notorious that women postpone calling in a doctor in the case of threatened or completed miscarriage, lest the doctor send them to a hospital where the police can discover the reason for which they have been admitted. Let it be understood that this information cannot be obtained at all hospitals and further that it is rarely given by a medical practitioner. We have called attention some time ago to the indefensible practice on the part of the lay management of hospitals of giving information to newspaper reporters concerning patients in the institutions. If the medical profession finds that the diagnosis set out in the hospital records are used for purposes other than those connected with the care of the patients, steps will have to be taken to keep these records under lock and key. It is intolerable that an innocent woman should have to undergo an inquisition by police. The result on a sensitive person may be serious to an extreme degree. Patients refraining to consult a medical practitioner because they fear this kind of thing, may be past help when the doctor's aid is summoned. Other means must be adopted to combat the evil of the abortionist. This method is highly objectionable and is quite unjustifiable.

Criminal abortion has always caused the medical profession much trouble. Unfortunately a few medical practitioners in every part of the world have succumbed from time to time to the importunities of girls in trouble and some have even sunk their honesty and pride for gain in undertaking this heinous offence. It is inconceivable that any medical practitioner could habitually undertake this class of work without the fact becoming known. There should be no difficulty in dealing with such a man. Professional secrets need not be disclosed. The practice must be rare, for the vast majority of medical practitioners are honourable men and are zealous in guarding the dignity and honour of the medical profession. Much more frequently the professional abortionist is an untrained and ignorant

person, a pest to society and to his or her patients alike. Often he or she is possessed of considerable cunning and is not easily trapped. How the traffic is to be stopped is a matter for the police authorities. They must realize that they can obtain no assistance from members of the medical profession and that clumsy want of discrimination in instituting inquiries is intolerable and must be stopped.

Current Comment.

OSTEO-GENESIS IMPERFECTA.

THE similarity of the clinical picture presented by patients suffering from certain types of osseous lesion at birth or in early infancy previously caused some confusion. Careful microscopical study has led to the recognition of different types and has enabled observers to place them in their proper class. Cretinism and rickets are sometimes productive of conditions which at first sight are very similar and the term fœtal rickets was for many years used to describe conditions which are not rhachitic in nature. In 1861 Heckel distinguished cretinism from *osteo-genesis imperfecta* by its clinical manifestations. In 1878 Parrot described achondroplasia and in 1892 Kaufman separated this condition from the general group under the name *chondro-dystrophia fœtalis*. Stilling in 1889 maintained that the use of so loose a term as fœtal rickets was superfluous. A very useful classification of congenital bone affections in the infant was made by Harbitz in 1901. He divided them into two groups. The first group described by him is characterized by an abnormal proliferation of cartilage, with imperfect bone formation. The cartilaginous defect occurs mainly at the epiphiseal line and at the centres of ossification. This group includes the condition spoken of by Parrot as achondroplasia and by Kaufman as *chondro-dystrophia fœtalis*. Harbitz's second group included those cases in which a fragile condition of the bone is present without any definite change in the cartilage. Klotz pointed out that this class as a whole and other bone diseases characterized by abnormal frangibility are included under the term osteopsathyrosis and that this class might be divided into further smaller classes of which *osteo-genesis imperfecta* is the most important.

Osteo-genesis imperfecta may be described as a disease characterized by a defect of the osteoblasts and recognized clinically by many fractures arising from trivial causes and by defective ossification of the cranium. Knowledge on the subject of this disease has recently been reviewed by Mr. R. Lawford Knaggs in the Hunterian Lecture delivered before the Royal Collge of Surgeons of England.[1] He considers first of all the clinical aspect of the disease. He describes four clinical varieties: The fœtal form, that occurring in infants, that occurring in childhood or adolescence and that occurring in middle or late life. He refers in some detail to examples of each group and describes their prominent characteristics. Two cases of the disease affecting children were reported in this journal in the issue of September 9, 1922, one by Stacy in a boy of eleven years and one by Bell in a boy of fourteen years. In discussing the cases which he reports, Mr. Knaggs states that there can be no doubt that the foundation of the mischief is laid in early uterine life and that the causal defect is present in the fœtus even in those instances in which clinical manifestations do not appear until after birth. He points out that the fractures are in the main subperiosteal, they unite readily and give rise to relatively little pain and local inflammation. The defective ossification in the skull is most noticeable in the vault, that is in the part developed in membrane. In the vault almost any degree of deficiency may be found. The skull may be represented by a membranous sac with occasional bony spicules or it may be nearly complete and the fontanelles may remain open and the sutures ununited. The base of the skull is also affected. Mr. Knaggs points out that although it can easily be understood that pressure on the base of the skull might exert some repressive influence on the antero-posterior diameter of the skull because the bone is developed from cartilage composed of atrophic and widely separated trabeculæ, shortness of the base of the skull is generally attributed to want of growth resulting from the feeble endochondral ossification. In view of the resemblance of cretinous infants to children suffering from *osteo-genesis imperfecta* it is interesting to note that in 1858 Virchow in his study of the base of the skull showed that the peculiar physiognomy of cretins was the result of early synostosis of the *os tribasilaris*. Klotz pointed out that the relative disproportion between the base and the vault of the cranium gives the head a hydrocephalic appearance. Mr. Knaggs explains the distinctive shape of the head as probably due to the lack of support given the brain by its limp and pliable osteo-membranous envelope. He adds that diagnosis of hydrocephalus should not be made without actual examination of the cerebral ventricles.

The histology of the condition is of extreme importance. Without a knowledge of its characteristics a differential diagnosis cannot be made. Mr. Knaggs summarizes the changes in the fœtal form as follows: The stages of cartilaginous formation are normal up to the formation of the primary areolæ; the periosteal and medullary ossification is quite abnormal in character, deficient in quantity and inferior in quality and osteoblastic edging to the trabeculæ is either absent altogether or only partially present. Trabeculæ are formed by the calcification of the cartilage and their extension takes place by metaplasia of the adjoining connective tissue of the marrow. Cartilage cells are produced by the periosteum instead of osteoblasts. Klotz in describing the changes found in the bones of an infant dead of the disease said that the cells that were trying to functionate as osteoblasts, were

[1] *The British Journal of Surgery*, April, 1924.

not osteoblasts. He regarded them as cells that stood midway between osteoblasts and chondroblasts and were derived from a perichondrium which had not been fully transformed into periosteum. Mr. Knaggs points out that in the adolescent form the shafts of long bones have a cortex which is not a continuous layer, but consists of a large number of irregularly shaped trabeculæ. The trabeculæ are edged by osteoblasts, but these do not functionate in a normal manner. A great clinical resemblance sometimes exists between osteo-malacia and *osteogenesis imperfecta*. It is well to note, as was shown by von Recklinghausen, that in well marked osteomalacia the proliferating zone of cartilage, as seen in rickets, is wanting in the long bones, while the bone trabeculæ are made up of tissue with a general lack of calcium deposit.

In regard to the pathogenesis of *osteo-genesis imperfecta* Mr. Knaggs apparently is not much concerned. He shows that one of two hypotheses will explain the condition. It has origin either in a quality implanted in the connective tissue itself at an earlier period of its development or in some influence on the cell from outside. He names these two possible causes the intrinsic and extrinsic respectively. He is more inclined to accept the former than the latter; "there is more to be said in favour of it."

CYSTINURIA.

CYSTIN is an amino-acid and an intermediate product of protein metabolism. It occurs in Nature in two distinct forms, protein cystin and stone cystin. These are isomeric and so resemble each other in certain respects, but at the same time they exhibit several distinct differences. Cystin was first found by Wollaston in 1810 in a urinary calculus. Although Külz found it occasionally on digesting fibrin with trypsin and Emmerling found it on treating horny substances with acids, it was not until 1889 and 1900 that Mörner and Embden showed that it was a constant and abundant dissociation product of the majority of albumins. Mörner and Embden also found that cystein occurred in the presence of and also apart from cystin and it was Pratten who showed that in the formation of cystin part of this substance was converted into cystein. Baumann showed that cystin in the urine is the disulphide of cystein. Wohlgemuth held that cystin is the principal mother substance of the sulphates, the unoxidized sulphur and the di-thionic acid in the urine; it is also the precursor of taurin of bile and of the products of decomposition in the intestine. It is interesting to note that Blum on the administration of cystin to dogs and rabbits by the mouth found that it became oxidized into sulphates. Rothera, moreover, carried out a series of experiments on himself and found that both stone cystin and hair cystin taken in doses of one gramme a day were completely recoverable in the urine as sulphates.

Cystinuria is a rare condition which was described by Garrod as a "chemical malformation" of the body and is due to an abnormality in the amino-acid metabolism. It is an hereditary and familial abnormality and appears to be largely independent of diet. There is in the tissues of the cystinuric individual an incomplete oxidation of the cystin which is normally present as a result of the breaking down of protein. Many patients affected by cystinuria frequently manifest a similar inability to oxidize other amino-acids normally formed by the disintegration of protein, such as leucin, tyrosin, aspartic acid and arginine, when these bodies are added to their food.

Dr. Augustus Harris has recently reported the occurrence of an interesting case of cystinuria in a girl aged sixteen years.[1] The patient's illness began with soreness and pain in the left side. After X-ray examination of the gastro-intestinal tract a diagnosis of "chronic appendicitis with psychic epilepsy" was made. The appendix was subsequently removed. Soon after this attacks of pain became worse and after cystoscopic examination and ureteral catheterization she passed a renal calculus. Several severe attacks of renal colic followed and both during and following each attack there appeared "showers" of cystin crystals in the urine. Examination of one of the stones showed that it was composed of pure cystin crystals. Later on the patient was subjected to nephro-lithotomy for the removal of a large renal calculus of the same nature. The patient was then kept on a low protein diet and was given bicarbonate of soda. In spite of this treatment combined with the drinking of large quantities of distilled water cystin crystals continued to be found every time the urine was examined. Dr. Harris states, however, that the patient obtained definite symptomatic relief for a period extending over many months. The history of Dr. Harris's patient is similar to that of many others. The results achieved by regulating the diet of such patients have been variable. As a rule it has been held that the question of diet has little bearing on the condition. Dr. Harris refers to the favourable results obtained by Jacoby and Klemperer in eliminating cystin from the urine by giving sodium bicarbonate internally with a vegetable diet. Neuman and also Rosenfeld obtained temporary results by this method. In regard to the ætiology of the condition Dr. Harris refers to the statement of Thompson Walker who holds that the precipitation of crystalline bodies is but one factor in the production of a calculus. The other essential factor is the presence of a colloid cement substance. Schade pointed out that colloids in urine varied in nature and were "reversible" or "irreversible," that is to say that in the latter instance when precipitated they are insoluble. For the formation of a calculus an irreversible colloid is necessary and these may be present in pathological conditions.

In conclusion Dr. Harris states that only a more complete knowledge of the body chemistry will lead to a point at which calculi will be preventible and will not recur after one or more major surgical operations have been performed.

[1] *Surgery, Gynecology and Obstetrics*, May, 1924.

Abstracts from Current Medical Literature.

GYNÆCOLOGY AND OBSTETRICS.

Myomectomy for Uterine Fibroids.

ARTHUR E. GILES (*The Lancet*, January 27, 1923) reports his results in hysterectomy and myomectomy. In 1,177 patients with uterine fibroids which he has treated surgically, hysterectomy was performed in 1,004 or 85.3%. The proportion of myomectomy to hysterectomy was thus one to six. The indications he gives for myomectomy are: (i.) The fact that the patient is of child-bearing age; (ii.) the association of fibroids with prolapse and procidentia, when the uterus may be saved and used to suspend the vaginal vault; (iii.) a deep-rooted objection on the patient's part to hysterectomy on sentimental grounds; (iv.) the character of the tumour, for example, whether single and pedunculated or multiple and diffuse. He regards the following factors as limiting the scope of myomectomy: (i.) Age factor. After forty or forty-five hysterectomy should be the rule, especially when there are multiple fibroids and when there has been excessive hæmorrhage. (ii.) Condition of uterine appendages. When fibroids are associated with double tubal disease or with bilateral ovarian tumours hysterectomy is the proper procedure. (iii.) Size and position of the tumours. If only a battered and unserviceable uterus can be left, it should be removed. Cervical and broad ligament fibroids generally call for hysterectomy. (iv.) Excessive hæmorrhage. When the patient has has great losses and is seriously drained thereby, the uterus should be removed. (v.) Temperament of the patient. In patients who attach great sentimental importance to the womb, it should, if possible, be left. Myomectomy may be required during pregnancy under three conditions: When the tumour or tumours appear to be increasing rapidly in size; when the patient is suffering from pain, pressure symptoms or indications of septic or degenerative changes in the tumours; when the position of the tumour makes it possible that labour will be obstructed. Of thirteen patients on whom the author operated during pregnancy, eleven went to term and two were not traced. He considers that myomectomy during pregnancy is a most satisfactory operation.

The Treatment of Vaginal Discharge.

ALECK W. BOURNE (*The Lancet*, February 24, 1923) in reviewing the general treatment of vaginal discharge points out that the scanty, clear mucoid discharge sometimes complained of in the unmarried is better untreated as treatment is often futile and of more trouble and inconvenience that the disease. In vulvo-vaginitis in little girls, after excluding worms, lice, pruritis with scratching and irritating urine, a loopful of pus should be taken from just inside the hymen and examined bacteriologically for gonococci. The treatment he advises is daily swabbing of the vulva with 10% "Protargol" and a small wool pledget soaked in this is placed inside the hymen daily. For the clear mucoid discharge of young virgins general rather than local treatment is necessary, building up the general health. The purulent or mucopurulent discharge in nulliparous non-virgins is frequently due to chronic gonorrhœa. A careful investigation is always necessary. The cervix, urethra and Bartholini's glands should be treated. Under an anæsthetic the urethra is dilated to No. 10 Hegar's dilator, the para-urethral (Skeyne's) tubules are slit up and cauterized and the urethra is painted with 15% "Protargol." The cervix is exposed, erosions cauterized or excised and the canal dilated and painted with 10% "Formalin." If the corpus is infected he dilates and inserts a twenty centimetre (eight inch) long rubber tube and the cavity is irrigated with "Eusol" four hourly for five or six days. The Bartholini's glands, if enlarged, should be excised. Afterwards a "Protargol" bougie (15%) is put in the urethra daily and a douche of "Condy's fluid" is used. The cervical canal may be treated thrice weekly with 10% "Formalin" or picric acid (saturated solution) in alcohol. Zinc ionization is very effective. If the cervix is severely lacerated, it should be amputated or a plastic operation performed. The purulent discharges of women past the menopause are likely to be due to a pyogenic vaginitis or endometritis. Sometimes the wearing of a pessary is the cause, but not always. The vagina and cervix should be inspected through a speculum. If vaginitis is the cause, the mucous membrane, especially in the upper part, is dotted with bright red maculæ. If pus is oozing from the cervix, a purulent endometritis coexists. The vaginitis clears rapidly with use of a 15% "Protargol" bougie nightly and a douche with alum thrice daily for a fortnight. If there is pyometra, the cervix should be dilated and the body of the uterus drained as before described.

Dysmenorrhœa.

LEONARD PHILLIPS (*Proceedings of the Royal Society of Medicine*, September, 1923) reported the results he had obtained in the treatment of one hundred patients suffering from dysmenorrhœa. The occupation in nearly all was sedentary. Sixty-seven were spinsters and thirty-three married, but the latter were all sterile. Menorrhagia was common. In half the patients constipation was severe. The majority were poorly developed, with weak abdominal muscles, faulty posture and breathing, anæmia or visceroptosis. In half there were signs of arrested development of the genital organs, such as a small acutely anteflexed uterus or a small retroverted uterus, poorly developed labia and breasts and the male type of pelvis and pubic hair. Fifty were treated with extracts of ductless glands, either alone or in combination with antispasmodics. Forty were treated with antispasmodics alone, ten were treated with sedatives. Only ten failed to be relieved and were submitted to operation. There were four distinct clinical types which were each treated appropriately. In the first type there was evidence of faulty hygiene and poor development. These were treated by proper clothing, diet, correction of constipation and exercise. The condition of the second type of patient resembled migraine, with general symptoms, headache and nausea. These reacted well to sedatives. In the third type of patient there was evidence of obstruction and clots. The fourth type was characterized by signs of arrested development of the genital organs. In both the third and fourth group good results had been obtained by organotherapy and electrical treatment in addition to the general hygienic treatment.

Fibromata of the Ovary.

MERLE R. HOON (*Surgery, Gynecology and Obstetrics*, February, 1923) reports the occurrence of fifty-five fibromata of the ovary in the Mayo Clinic among four thousand one hundred and seventy-five ovarian tumours. He holds that fibromata of the ovary may occur at any age after puberty. They comprise 3.5% of all ovarian tumours. There may be comparatively few symptoms and the tumour may be present for a long time without the patient's knowledge. Ascites and tumour in the pelvis do not necessarily mean abdominal malignancy. The treatment is surgical. All ovarian tumours should be operated on as soon as diagnosed. The prognosis is good. Menstruation is usually regular and normal in amount as could be expected following unilateral ovariotomy. Normal pregnancy may occur in patients of child-bearing age, when only one ovary or one ovary and one tube have been removed.

NEUROLOGY.

Trauma in Organic and Functional Nervous Disease.

S. A. KINNEAR WILSON (*Journal of Neurology and Psychopathology*, August, 1923) writes that the subject of the possible causal relation of trauma to organic and functional disease is thorny and difficult, yet of first and ever increasing importance equally to general practitioner and specialist. Both have experience of legal decisions in compensation cases which have been unsatisfactory from a medical and scientific standpoint. The reason is that medicine is not an exact science. The total of money involved in litigation in such cases

is almost incredible. Workmen's compensation in Great Britain is estimated to cost the country thirty-six to forty-eight million pounds a year. Trauma has been defined as "an abnormal condition of the body caused by external injury"; an accident as "injury by some unexpected and external event." From the legal point of view the distinction between accident and disease is vanishing. The case is quoted of a man who fell off a ladder and developed hemiplegia. The condition was in reality one of encephalitis, yet it was held to be an accident that the "germ" of encephalitis attacked the man while he was working. In view of this, ætiology becomes meaningless and the conception of causation, obsolete. The writer next states that he has never been able to understand why it is alleged so persistently of the nervous system that trauma initiates neural processes. For example, cerebral tumours are often attributed to head injury. The recent war has provided an experiment on a colossal scale and yet out of many scores of personally observed cases of gun shot wounds of the head not once has an intra-cranial tumour resulted. Similarly, in regard to disseminated sclerosis the evidence of the war is quite opposed to any traumatic ætiology. And in neurosyphilis, including tabes and general paralysis, the discovery of the spirochæte has made it unnecessary to seek further cause. Epilepsy is another condition wrongly ascribed to trauma, as is shown by Aldren Turner's figures of 18,000 cases of head injury and 5% of resultant epilepsy. Lastly, in the subject of the rôle played by trauma in neurosis formation the observer is lost in the confines of a vast, inchoate group of morbid affections variously described as traumatic neurasthenia or neurosis or hysteria, respecting which there is neither ætiological, symptomatological nor even terminological agreement. When claims arise in such cases, the only reasonable conclusion is that the supervening neurosis is prolonged by conscious or unconscious motives.

Chronic Sepsis and Mental Disorders.

HENRY A. COTTON (*Journal of Mental Science*, October, 1923) in a paper on chronic sepsis and mental disorders, read before the Medico-Psychological Association of Great Britain, gives an account of methods followed and results obtained in Trenton Hospital in the United States of America. He thinks that while heredity and psychogenesis are of importance, especially in precipitating the psychosis, yet the principal ætiological factor is chronic sepsis. He regards it as imperative that every patient admitted to a mental hospital should have a thorough diagnostic survey and all foci of infection eliminated. This survey includes the teeth, the tonsils, the stomach (gastric analysis and the obtainment of autogenous vaccines), the colon (resection may be necessary), the *cervix uteri* in females and the *vesiculæ seminales* in males. The author states that the successful treatment of fourteen hundred and twelve patients during the past five years, must be accepted as evidence that the work has been efficient. The fact that recoveries in the last five years average 87% of this group against an average of 38% for a period of ten years prior to 1918 should be convincing. The latter can be considered as spontaneous recoveries and the increase of 49% is due entirely to the method of detoxication employed.

Focal Infection and Mental Disease.

NICHOLAS KOPELOFF AND GEORGE H. KIRBY (*American Journal of Psychiatry*, October, 1923) say that in a series of one hundred and twenty patients suffering from mental disorder observed by them, the removal of focal infection in fifty-eight did not result in a higher percentage of improvement or recovery than in a comparable group of sixty-two from whom foci of infection were not removed. As a matter of fact in every patient who recovered, a recovery had been forecasted before treatment began and none recovered in whom a bad prognosis had been given. They consider that this critical test of Cotton's methods has proved them to be unsatisfactory and that although it is desirable in mental disorder to eliminate focal infection in the same way as in any physical disorder, in their opinion the ætiological significance of such infection in relation to the psychoses has been overrated.

The Sequelæ of Encephalitis Lethargica.

A. G. DUNCAN (*Brain*, February, 1924) observed one hundred and thirty-six patients suffering from *encephalitis lethargica* admitted to the London Hospital, of whom thirty-five died in the acute stage of the disease. In his summary and conclusions he writes: (i.) Evidence of mental impairment or of organic disease of the nervous system is found in nineteen-twentieths of patients. (ii.) In more than one-quarter there is a condition of symptomatic *paralysis agitans*, usually progressive and causing death through complications. (iii.) In three-twentieths there are choreiform movements, which may ultimately disappear. (iv.) Residual cranial nerve palsies, especially of the third and seventh nerves, are very common. (v.) Hemiplegia, monoplegia and paraplegia due to myelitis may be seen. (vi.) The physical sequelæ may be residual conditions persisting from the acute stage or they may appear many months after apparently complete recovery. Sequelæ at first mild may become rapidly worse. (vii.) The physical sequelæ are more common and more severe in adults than in children; symptomatic *paralysis agitans* is most frequently between the ages of fifteen and thirty-five. (viii.) The common minor symptoms of mental impairment are defective memory, inability to concentrate, abnormal drowsiness and changes in temperament. The more serious mental changes include mental deficiency of any degree, manic-depressive insanity and conditions suggesting *dementia præcox*. (ix.) The greatest liability to mental sequelæ is in children below the age of ten years. The severity of the mental sequela varies directly with the degree of negative general nervous disturbance present during the acute stage. (x.) As in other cases of toxic psychosis, the immediate prognosis of acute mania following *encephalitis lethargica* is good; the mania may persist for twelve months or more, but finally the patient recovers, usually with a minor degree of permanent mental disturbance. (xi.) The severe and occasionally fatal nature of the sequelæ, their irregular clinical course with remissions and relapses and the frequently acute onset of these relapses, strongly suggest that in some cases the virus of *encephalitis lethargica* abides in the nervous system long after the acute symptoms have subsided.

Pyknolepsy.

W. J. ADIE (*Proceedings of the Royal Society of Medicine*, November 8, 1923) writes concerning a form of epilepsy with a good prognosis occurring in children. The subject has been dealt with in foreign journals, but nothing has been written in English. The features of the condition are embodied in the following definition: A disease with an explosive onset between the ages of four and twelve years, consisting in frequent short, very slight, monotonous minor epileptiform seizures of uniform severity which recur almost daily for weeks, months or years, are uninfluenced by anti-epileptic remedies, do not impede normal mental and psychical development and ultimately cease spontaneously never to return. From this it may be judged that favourable types cannot be detected at the onset. There is nothing in the individual attacks to distinguish them from ordinary *petit mal*. The writer is satisfied that pyknolepsy (πυκνός: frequent, heaped up, closely packed, aggregated) is a disease *sui generis*.

The Differential Diagnosis Between Parkinson's Disease and Parkinsonism.

E. PAULIAN AND N. TOMOVICI (*Revue Neurologique*, August, 1923) recommend the following test, modified from that of Fåhræus and others, to distinguish true *paralysis agitans* from simulant conditions, such as that following encephalitis. Using a "Record" syringe, first draw in one to two cubic centimetres of a 5% solution of citrate of soda, then by venipuncture fill the syringe with blood, next introduce the mixture to a tube four to five millimetres in diameter and inspect every quarter of an hour for sedimentation. In true Parkinson's disease sedimentation is rapid, in other conditions slow.

British Medical Association News.

SCIENTIFIC.

A MEETING OF THE VICTORIAN BRANCH OF THE BRITISH MEDICAL ASSOCIATION was held in conjunction with the Melbourne Hospital Clinical Society at the Melbourne Hospital on June 4, 1924, DR. J. W. DUNBAR HOOPER, the President, in the chair. The meeting took the form of a series of clinical demonstrations.

Sir George Syme.

Members received with prolonged applause a motion by the PRESIDENT that the Branch tender very hearty congratulations to Sir George Syme on the occasion of the honour of knighthood bestowed upon him by His Majesty the King.

Hemiplegia Associated with Pulmonary Lesion.

DR. KONRAD HILLER demonstrated the physical signs and discussed the diagnosis in the case of a young woman, eighteen years of age, who had been well until October, 1922, when hæmoptysis, the first indication of ill-health, occurred. Since the initial hæmorrhage she had expectorated small quantities of blood at intervals and three weeks before her admission to hospital on April 24, 1924, had suffered from a profuse hæmoptysis.

Five months previously the patient had experienced for the first time a sensation of numbness in the left great toe; she described the numbness as subsequently spreading to the left leg, left side of the body and left arm. There had been no headache, vomiting or nocturnal sweats and since she became ill the patient had maintained her weight.

Dr. Hiller demonstrated paresis of the seventh, ninth and eleventh cranial nerves on the left side and of the left arm and leg. On this side the deep tendon reflexes were hyper-active and the superficial abdominal reflexes much depressed; an equivocal response was obtained on attempts to elicit the plantar reflex. Diminution in perception in respect to all forms of sensation was evident on the left side and astereognosis was well illustrated. In the thorax the percussion note on the left side was much impaired over the lower lobe of the lung; in the axillary line the note was quite dull, but it improved in quality nearer the spine. The intensity of the breath sounds and of the vocal resonance were much diminished over the area indicated.

Various measures of laboratory investigation had been carried out and included complement fixation tests with reference to hydatid disease, tuberculosis and syphilis (Wassermann test). No reaction had occurred in any instance. No tubercle bacilli had been found in the sputum and the Casoni intra-dermal cutaneous tests for echinococcus disease had yielded no reaction. It had been determined also that the count of eosinophile leucocytes was not above normal in a total leucocyte count of 6,250 per cubic millimetre.

By radiographic examination it was seen that the heart was displaced towards the right side, that the left half of the diaphragm was immobile and that with the exception of a clear area at the costo-phrenic angle, the translucency of the lower half of the left side of the chest was obliterated.

Cerebral Tumour: Intra-Ventricular Hæmorrhage.

Dr. Hiller's second patient was a man, aged sixty years, who had been admitted to the Melbourne Hospital on May 13, 1924. On May 12 he had suddenly been seized with very severe occipital and frontal headache; he had stated that during the attack he was unable to see and that although he did not lose consciousness, he became very drowsy. Four days previously, on May 8, 1924, he had experienced giddiness and headache which had passed off in a few hours.

When admitted to hospital the patient had been very drowsy and irritable and had displayed some neck rigidity Kernig's sign could not be demonstrated. The readings of the systolic and diastolic blood pressures had been one hundred and ninety-four and one hundred and two millimetres of mercury respectively. The urine had a specific gravity of 1030 and contained no albumin.

On May 14 blood-stained cerebro-spinal fluid had been withdrawn by lumbar puncture and the fluid had been under greatly increased tension.

On May 15 the headache had still persisted and the patient had been very dull mentally.

Examination on May 19 had failed to disclose any affection of the cranial nerves. Motor power in the muscles on both sides of the body had been good, although the deep tendon reflexes were more active on the left side. The superficial abdominal reflexes could not be elicited on either side and on both sides the response of the plantar reflex had been equivocal. All forms of sensation had been much impaired over the whole of the left side of the body including the face and the existence of left-sided homonymous hemanopia had denoted affection of the right optic tract. A second lumbar puncture performed on this date had yielded cerebro-spinal fluid that was still blood-stained. The urea content of the blood had been determined at thirty milligrammes per hundred cubic centimetres of blood and no evidence of syphilitic infection could be obtained by the Wassermann test as applied to the blood serum.

Examination of the ocular fundi on May 16 had disclosed commencing papillœdema on both sides. On May 23 the degree of papillœdema in the left eye had been 1.5 diopters and was decidedly greater than that in the right eye. One week later the left-sided papillœdema had advanced to two diopters. The patient had experienced no headaches, vomiting or blurring of sight before the attack which occasioned his admission to hospital.

Mitral Stenosis.

DR. H. HUME TURNBULL showed a patient with mitral stenosis, a female of thirty years of age. It had occasioned a serious degree of cardiac failure. The failure of compensation was attended by much œdema of the lungs so that the air entry was very poor on both sides. There had been many pulmonary infarcts. The rhythm of the heart was normal and little or no relief had been afforded the patient by the usual measures adopted in the treatment of cardiac failure.

Inhalation of oxygen through tubes passed into the naso-pharynx had been instituted and maintained for three or four hours daily with consequent great relief of the dyspnœa and diminution of cyanosis. Dr. Turnbull regarded the dyspnœa as due chiefly to imperfect oxygenation of the blood as the result of the presence of fluid in the fine air passages.

Acute Rheumatism.

Dr. Turnbull's second patient was a man, aged twenty-nine years, affected by acute rheumatism, in whom the only unfavourable sign for six weeks had been a pulse rate persistently about ninety per minute. In the ninth week of his illness the patient had first showed physical signs of mitral valvulitis.

Arterio-Sclerosis.

In the third instance Dr. Turnbull showed a man, aged fifty-eight years, who dated his illness from the onset of a severe cough nine years previously. The cough had persisted during the whole of this time and had been accompanied by progressively increasing shortness of breath. For years he had been expectorating copious quantities of sputum.

In November, 1923, and again in February, 1924, the patient had been admitted to the Melbourne Hospital for the relief of cardiac failure which, however, had recurred shortly after his discharge. He had been taken into hospital again in March, 1924, and had then exhibited very much distress in breathing, cough and œdema of the limbs and basal portions of the lungs. He had continued to expectorate large amounts of muco-purulent sputum.

By physical examination it had been determined that the cardiac dulness extended from a point five centimetres

to the right of the sternum to the mid-axillary line and that the apex beat was in the sixth intercostal space and fifteen centimetres to the left of the mid-line; the beat had been rather diffuse and not powerful. Although the wall of the radial artery was somewhat thickened, the retinal vessels were of normal appearance. The aorta was not enlarged so far as could be estimated by percussion and radiographic examination. The systolic and diastolic blood pressure readings were one hundred and thirty-five and eighty millimetres of mercury respectively. The blood serum had been examined by the application of the Wassermann test, but no indication of syphilitic infection had been thereby afforded. A trace of albumin was present in the urine. Estimations of the blood urea had been carried out on two occasions with findings of twenty-five and twenty-three milligrammes of urea per one hundred cubic centimetres of blood.

Dr. Turnbull exhibited radial polygraph tracings and electro-cardiographic records. In the former he demonstrated many extra-systoles and gross pulse alternation and in the latter want of conduction in the right division of the auriculo-ventricular bundle and extra-systoles from the ventricles. He was of opinion that the principal pathological changes consisted of arteritis of the medium sized vessels and that the coronary arteries were especially affected; he suggested that the vascular changes had resulted from the absorption of toxin elaborated as a concomitant of the chronic bronchitis. The only drug which gave the patient substantial relief was digitalis, which he received in doses of thirty to forty drops of the tincture daily. He complained at once if the digitalis was stopped.

Spastic Paraplegia.

DR. R. P. MCMEEKIN showed as illustrating great improvement following the Royle operation a man who was affected with spastic paraplegia dependent upon syphilitic sclerosis of the cord.

The patient had contracted a chancre six years previously and for this had received intensive mercurial and arsenical treatment. Two years later on a certain day after exposure in wet weather, he had found his lower limbs stiff and lacking in power. He had immediately sought advice and in the course of investigation it had been found that the cerebro-spinal fluid yielded a reaction to the Wassermann test; his blood, however, had not yielded such a reaction. He had accordingly been given twelve injections of "Nov-arseno-billon," but eventually had left the hospital unimproved.

About twelve months before demonstration the patient's disability in walking had become aggravated to such a degree that even when lying in bed he was unable to move his legs. He had therefore been re-admitted to a hospital in Sydney and had received four months' further anti-syphilitic treatment, but improvement had been slight only and the patient after the lapse of a further eight months had sought admission to the Melbourne Hospital.

He had then been found to exhibit neurological signs of pathological changes in the pyramidal tracts and posterior columns of the spinal cord. Both lower limbs had been spastic, the right more so than the left, although muscular power was not greatly impaired. On walking, definite spastic ataxia had been evident as well as a tendency to fall to one or other side. The quadriceps deep tendon reflexes had been very active as were those of the *tendo Achillis* on both sides. The plantar reflex had been extensor in character on the right side and equivocal on the left. Epicritic sensation had apparently been unimpaired, but there was an area of diminution in protopathic sensation over the anterior aspect of the right leg. The responses to tests of deep sensibility and perception of heat and cold had shown depression of these functions over the anterior and lateral aspects of the right leg. No reaction in the Wessermann test was present in either blood or cerebro-spinal fluid of the serum; there was a slight increase in the globulin content of the serum, but no pleocytosis.

Mr. Kilvington had performed the Royle operation of division of the *rami communicantes* of the sympathetic trunk on the right side four weeks and on the left side two weeks previously. The patient already displayed improvement in his gait; he was less ataxic and was able to flex the knees in walking.

Cerebellar Tumour.

Dr. McMeekin's second patient was a woman, aged fifty-five years, who presented clinical features indicative of the presence of a cerebellar tumour. Nine months previously the patient had first experienced trouble from vomiting. This had been associated with some discomfort after taking food and five months after its onset she had undergone an exploratory operation. The laparotomy had disclosed a diverticulum of the transverse colon. This had been removed, but the operation had not led to any relief of symptoms. The woman had subsequently developed double vision and occipital headache; later vision had become impaired and giddiness appeared as a prominent symptom. In the next phase she had exhibited staggering and a tendency to fall to the left and backwards. Nystagmoid movements of the eyeballs had been observed and some paresis of the sixth cranial nerve on the left side. There had been no unilateral muscular atonia. Dysdiadokokinesia was evident in both hands.

Dr. Leonard Mitchell had demonstrated ophthalmic changes. In both eyes vision was represented by the formula $V = 6/6$; papillœdema was estimated as three diopters in the right eye and five diopters in the left eye. The nystagmus was best observed when the patient looked downwards and to the left and exhibited both rotary and lateral components.

Chronic Lymphatic Leuchæmia.

DR. S. O. COWEN discussed the case of a male patient, aged sixty-eight years, who had first attended the Out-Patient Department of the Melbourne Hospital in March, 1919. He had then been suffering from influenza and no abnormal physical signs had been noted. In October, 1920, the patient had re-appeared in the Out-Patient Department and had made complaint of indigestion. On physical examination there had been found a very large abdominal tumour which completely filled the left half of the abdomen and extended from the ribs to the pubis. The tumour was hard and nodular, fixed and was separable from the spleen. The axillary glands had been found to be enlarged, but there was no increase in size apparent in the cervical and inguinal lymphatic glands. Enlargement of the mediastinal glands could not be demonstrated. Examination of the patient's blood at this time showed that of a total leucocyte count of 65,000 per cubic millimetre, 92% were lymphocytes.

During the period December, 1920, to March, 1921, X-ray therapy had been carried out on twenty-seven occasions. During the earlier part of this time the patient's general condition had become rapidly worse, but from the end of December he had begun to improve and had remained comparatively well ever since. By March 17, 1921, the abdominal tumour had completely disappeared. Generalized enlargement of the superficial gland groups and of the mediastinal glands had become manifest since the end of the 1921 and twice the abdominal tumour had reappeared. Irradiation as follows had, however, kept the disease in check: May, 1921, two exposures; July, 1922, nine exposures; October, 1922, two exposures; February, 1924, one exposure (deep therapy). From October, 1920, to July, 1921, and from January to May, 1922, the patient had received benzol in doses of 0.3 cubic centimetres (five minims) three times a day.

Jaundice of Unknown Origin.

Dr. Cowen also showed a young married woman, aged nineteen and a half years, who exhibited jaundice of obscure origin. Jaundice was said to have appeared four days after birth and, although fluctuating in intensity from time to time, had been present ever since. In other respects the patient was perfectly healthy; she suffered no pruritus; her average pulse rate was from sixty to seventy-two beats per minute. The patient was one of fifteen children of whom seven were alive. The eight other children had been still-born or died within a day or two of birth. The next younger member of the family, a brother aged sixteen and a half years, had also been

jaundiced, but the patient's youngest sister, fourteen years of age, was not affected. She herself had a normal healthy child aged twenty months and had had a premature baby (seven months) which had not survived. Physical examination had revealed no abnormality and there had been no splenic enlargement. In the examination of the blood it had been found that the red corpuscles numbered 5,300,000 per cubic millimetre, the leucocytes 7,900 per cubic millimetre; hæmoglobin had been estimated as 100% and no abnormalities had been detected in the film. No undue fragility had appeared in the red corpuscles. The blood serum had shown no response to the Wassermann reaction, but was obviously bile-stained. The application of the Van den Bergh test had resulted in a delayed direct reaction and a strong reaction was obtained by the Fouchet test. Dr. Burnett, of the Walter and Eliza Hall Institute, had determined that there were no auto- or iso-agglutinins present in the blood. Urobilin and a trace of bilirubin had been present in the urine, but there did not appear to be any bile-salts. Hepatic function had been investigated by the lævulose test, but no deviation from the normal had been shown.

Sciatic Neuritis.

DR. LESLIE HURLEY presented a male patient whose chief complaint was weakness in the left lower limb. The patient dated the disability from an accident twelve years previously in which the left femur had been dislocated from the hip joint. He had suffered a good deal of pain in the region of the left hip joint and particularly during recent months. Pain of a sharp and lancinating character had occurred also about the left instep and lower part of the leg. Wasting of the limb had been noticed by the patient himself during the previous six months and he stated that the limp in his gait which had been present ever since the accident, had become more pronounced during recent months. A few months after his injury he had noticed "swellings" on the left leg which after one or two months ulcerated, and ever since that time he had been troubled by alternately healing and breaking down ulcers on his leg.

On physical examination the patient presented scoliosis in the dorso-lumbar region, the convexity of the curve being to the right. The pelvis was tilted to such a degree that the left anterior superior iliac spine was elevated two and a half centimetres above that of the right side. The left lower limb was two centimetres shorter than the right and displayed much muscular wasting. Tenderness was elicited by pressure over the left great trochanter which was placed two centimetres above Nélaton's line. Other points noted were swelling about the left ankle joint, bluish coloration of the lower portion of the leg, scars and pigmentation of old ulcers and a peculiar velvet-like feeling and coldness on palpation of the left leg. Sensory disturbances consisted in loss of epicritic sensation over the dorsum and sole of the foot and on the lateral aspect of the lower half of the left leg. Protopathic loss was detected over a somewhat smaller area. The vibration sense was absent and there was great impairment of the sense of joint position and passive movement, while the capacity to discriminate when tested with compass points was notably diminished. The patient was unable to execute any movements of the ankle joint or any of the joints of the foot and, although he was capable of movements at the knee and hip joints, these were weak compared to those of the left side.

A skiagram of the left hip joint had been secured from which it appeared that there was considerable destruction of cartilage in the left hip joint; there were also hypertrophic bony changes comprising "mushrooming" of the head of the femur and upward displacement of the neck as from an old fracture.

Dr. Hurley commented upon the escape of the hamstring muscles and discussed the relation of the patient's injury to his demonstrated condition along with the nature of the pathological change in the femur.

Bronchiectasis.

DR. DOUGLAS THOMAS showed a man, aged twenty-four years, whom he regarded as affected by extensive bronchiectasis. For at least eight years the patient had been troubled by constant cough and expectoration. In 1919 he had contracted a severe attack of influenza which was then epidemic and as a result of this illness he had suffered much in general health, the cough and expectoration becoming much aggravated. Since then he had always felt weak and he had been unable to live an active life as he had formerly done. He had been conscious of gradually increasing shortness of breath and loss of strength and energy. Although not robust the patient could scarcely be said to be under nourished. In cold weather he showed a little cyanosis of the lips, but usually this was not visible. The fingers showed well defined clubbing, but there were no indications of arthropathy.

In the physical examination of the chest the percussion note was found to vary at different times. After a spell of coughing the note was hyper-resonant and it did not lose the resonant quality. Over the right pectoral area the note remained consistently hyper-resonant and in this region the breath sounds were always amphoric in character. No adventitious sounds could be heard at the apices, but the breathing there was of bronchial type. Usually adventitious sounds of all kinds could be heard posteriorly especially at the bases of the lungs. In the anterior area of amphoric breathing the vocal resonance and fremitus were exaggerated and the whispered voice was distinctly audible.

Radiographic examination of the chest and of the nasal accessory sinuses had been made and the report suggested a general sinusitis, including infection of the frontal sinuses. The skiagram of the chest showed a shadow involving and extending from the hilum, more definite on the right side than on the left. The apices were apparently clear, but the plate showed a well defined cavity on the right side corresponding in situation to the area of amphoric breathing. The sputum was purulent and of very offensive odour. Many examinations had failed in the detection of tubercle bacilli and cultural investigation had resulted in the isolation of two streptococcal strains, *Streptococcus viridans* and *Streptococcus hæmolyticus*. A vaccine had been prepared from these organisms. The patient had been observed to cough upwards of three hundred cubic centimetres of pus in one bout of coughing. When he lay on his left side he was immediately seized with a fit of coughing; when lying on his back or right side he was much more comfortable. Treatment had consisted in injections of autogenous vaccine and the administration of creosote. It was proposed to resort to endoscopic examination in order to see if anything could be done by that method.

Trigeminal Neuralgia.

MR. BASIL KILVINGTON presented a man, sixty-five years of age, who had attended the Melbourne Hospital in the first instance for the relief of trigeminal neuralgia of eighteen months' duration. The pain corresponded mainly to the distribution of the inferior dental nerve, the infra-orbital division was affected in less degree and the ophthalmic apparently not at all. In June, 1923, Mr. Kilvington had injected the inferior dental and infra-orbital nerves through their foramina of egress with 80% alcohol containing eucaine. As a result of this procedure the patient had been afforded relief for eight and a half months, at the end of which time his neuralgia had recurred. Early in March, 1924, Mr. Kilvington had operated and removed the lower portion of the Gasserian ganglion and although the inferior dental neuralgia was relieved, the patient still suffered pain in the infra-orbital area. Five weeks later the wound had been reopened and on this occasion the whole ganglion was removed. The man had been free of pain since. The method of excision of the Gasserian ganglion adopted was that known as the Hartley-Krause operation. Five days after the operation the patient had become febrile and exhibited a Bell's paralysis; this had not been connected with sepsis in the wound and had practically disappeared.

Dislocation of Hip: Cox Valga.

MR. B. T. ZWAR detailed the measures he had adopted in the treatment of a youth affected with *coxa valga*. The history given was that the patient, sixteen years of age, had

suffered from infantile paralysis, involving both lower limbs at the age of two years. A fair degree of power had returned to the right limb, but very little to the left. For some time he had been able to walk with the aid of a push chair, but at the age of five years he had ceased walking altogether and since then had not used his left lower limb. On inquiry no history of trauma could be obtained.

Examination had revealed a withered and underdeveloped left lower limb, held in a position of flexion, adduction and internal rotation. Other points noted had included scoliosis, lordosis, tilting of the pelvis upwards and to the left and undue prominence on the lateral aspect of the left ilium consequent on abnormal position of the head of the femur. The ilio-tibial band had been relaxed. The greater trochanter had been elevated above Nélaton's line and the vertical limb of Bryant's triangle had been shortened to five centimetres. The movements at the left hip joint had been free except for a slight angle of permanent flexion and electrical reactions had shown that the muscles of the left thigh and those operating the left hip joint responded in a normal manner. The radiologist's report had been to the effect that the skiagram showed an old-standing dislocation at the hip joint. The acetabular cavity had been partially filled in while the angle formed by the junction of the neck with the shaft of the femur was increased almost to one hundred and eighty degrees. The *caput femoris* had apparently rested against the upper margin of the acetabular fossa, but had slipped into the fossa when the limb was manipulated into a position of extreme flexion and outward rotation.

On May 19, 1924, Mr. Zwar had operated and reflected a U-shaped flap from the lateral surface of the left hip joint. The superficial part of the greater trochanter had been sawn off and reflected and this step had been followed by cuneiform osteotomy of the neck of the femur. The liberated head of the bone had then been placed in the acetabular fossa, following which the shaft of the femur had been attached to the head at a normal angle by means of a long screw. By apposing the cut edges of the periosteum the reflected piece of the great trochanter had been restored to position, the limb meanwhile being held in a position of flexion and slight abduction. On the return of the patient to the ward the limb had been subjected to two kilograms of extension by the Hamilton-Russell method.

A skiagram taken a few days prior to the meeting showed the bone to be in excellent position. The patient had experienced some pain subsequent to the operation, but he was very comfortable and the wound had healed. The weight for the maintenance of extension had been reduced to one and a quarter kilograms.

Calculous Anuria.

Mr. Zwar's second patient, Mrs. X., thirty-three years of age, had been admitted to a medical ward of the Melbourne Hospital on May 15, 1924. She had passed no urine for the previous four days and stated that the flow had stopped suddenly. Prior to this she had noticed no alteration in the quantity of urine she was passing. Since the cessation of micturition she had felt the desire to micturate, but said that she had not felt ill in any way. On physical examination the left kidney had been readily palpable and tenderness had been elicited in the left costo-vertebral angle. There had not appeared to be any distension of the bladder. "Plastine" had been applied to the lumbar region, eliminative drugs had been administered and the patient had been given a daily electric bath. On the day following her admission, May 16, she had passed one hundred and fifty cubic centimetres of urine, and an estimation of the blood urea had been one hundred and ninety-six milligrammes per hundred cubic centimetres of blood. By venesection two hundred and forty cubic centimetres of blood had been withdrawn and one hundred and eighty cubic centimetres of saline solution containing glucose introduced into the circulation. An examination of the ocular fundi on this date had revealed no retinal changes. On May 17 ninety cubic centimetres of urine had been withdrawn by catheter. This specimen was found to contain albumin and a great deal of pus; no red blood corpuscles, renal casts or urinary crystals had been detected. A punctate rash of wide distribution had appeared and was interpreted as a manifestation of toxæmia. On May 19 the patient had not passed any urine and the urea content of the blood had risen to two hundred and thirty-seven milligrammes per hundred cubic centimetres. The radiologist's report had demonstrated that a large stone was impacted in the left ureter at the uretero-pelvic junction. There were also several calculi distributed round the periphery of the right kidney substance.

Mr. Zwar had operated on the same day and removed the stone impacted in the left ureter. The pent-up urine had rushed away with great velocity, washing the stone to the floor. A drain tube had been inserted and the wound rapidly closed. The quantity of urine passed on the day following the operation had been six litres (two hundred fluid ounces).

On May 21, 1924, the quantity of urine had been six litres and the blood urea eighty-four milligrammes per hundred cubic centimetres. The urine had been acid in reaction and contained red blood cells and a fair quantity of pus and albumin.

On May 23, 1924, the quantity of urine had been 3.6 litres and the blood urea fifty-four milligrammes per hundred cubic centimetres. There had been blood in the urine and the skin eruption had begun to fade.

On May 26, 1924, the quantity of urine had been 2.3 litres. There had been a temporary anuria for twenty-one hours and in that interval thirty cubic centimetres of blood had been obtained by catheter. The patient had had a constant desire to micturate.

On May 27, 1924, the quantity of urine had been 2.4 litres. A little albumin and a few pus cells and red blood cells had still been present.

The radiologist had reported as follows:

> No calculus detected in left kidney area. In the area of the right kidney, shadows formerly noted round the periphery have disappeared. Multiple shadows present in pelvis of right kidney; a shadow opposite the space between the fourth and fifth lumbar vertebræ possibly represents a stone in the left ureter.

On May 30, 1924, the quantity of urine had been 1.9 litres. There had been a slight rise in the evening temperature for the previous four days. The wound had been clean.

One June 1, 1924, the temperature had been normal.

Typhoidal Cystitis.

MR. VICTOR HURLEY, C.M.G., presented a female patient, aged twenty-five years, who had been admitted to the Melbourne Hospital on February 14, 1924, suffering from typhoid fever. Fourteen hours after admission she had developed pleurisy and pneumonia affecting the lower lobe of the left lung; at the same time a slight degree of jaundice which persisted for two days, had been noted. Eventually she had entered on what appeared to be normal convalescence, but on April 4, 1924, complained of severe pain of sudden onset. The pain had been located in the epigastric region and had lasted for fifteen minutes, but there was no associated jaundice. Bacteriological examinations of the urine and fæces had been made on March 3, March 21 and April 4. On the second occasion organisms having the cultural reactions of *Bacillus typhosus* had been recovered from the fæces, but they had been inagglutinable by typhoid sera. No typhoid bacilli had been isolated from the excreta at the other examinations.

The patient had been ready to leave hospital on April 22, ten weeks after admission, when she was seized with sudden severe pain in the right upper portion of the abdomen accompanied by vomiting. On the following morning she had exhibited much tenderness and rigidity over the whole abdomen, but these signs had been most pronounced in the region of the gall bladder. The leucocytes had numbered 20,000 per cubic millimetre. A diagnosis was made of acute cholecystitis and spreading peritonitis. On April 23 Mr. Hurley had opened the abdomen by means of a right para-median incision. Purulent fluid and much plastic exudate had been found in the neigh-

bourhood of the gall bladder. It had been exposed by the separation of intestinal coils glued to its under surface by inflammatory exudate. After packing away the surrounding viscera the gall bladder had been opened and a quantity of thick pus, under considerable tension had escaped. No bile had been found at this time in the contents of the gall bladder. The operation had been completed by the performance of cholecystotomy and bile had appeared on the dressings on the following day.

From the pus evacuated from the gall bladder a pure culture of *Bacillus typhosus* had been obtained. These organisms had also been present in the fluid draining from the gall bladder on the seventh day after operation, but bacteriological examinations made on the seventeenth and nineteenth day had failed in the detection of typhoid bacilli. No organisms had been found by bacteriological investigations of the urine and fæces on the twelfth, fourteenth, sixteenth and twenty-seventh days after operation.

Exophthalmic Goitre.

In the second instance Mr. Hurley showed a woman, aged forty years, who had come to hospital on February 23, 1924, for the relief of a large painful swelling which had been present for eight weeks. The swelling, which was fluctuant and leaking pus, had been situated below the angle of the jaw and had also involved the upper portion of both anterior triangles of the neck. After the application of antiseptic foments the swelling had discharged itself through the skin in several places and the appearance after a few days had been very suggestive of a breaking down gumma. Ulceration of the skin had extended so that it eventually affected a considerable area of the neck. No history of syphilis had been obtainable, the ulceration had made no response to anti-syphilitic remedies and no result had been obtained when the blood was submitted to the Wassermann test.

The patient had presented in addition a typical picture of an advanced stage of exophthalmic goitre. The thyreoid gland which pulsated strongly, had exhibited a soft general enlargement which had gradually developed during the previous two years.

The patient's weight had been recorded on March 11, 1924, as 30.4 kilograms and on March 28 as 33.1 kilograms. The basal metabolic rates on each of these dates had been +80 and +63 respectively. Quinine hydrobromide was administered, but no improvement had followed; the patient had also been given iodine in watery solution with potassium iodide and tincture of digitalis.

On May 1, 1924, Mr. Hurley had performed hemithyreoidectomy under combined regional and local anæsthesia, an operation which had been well borne and did not distress the patient at all. Her general condition had greatly improved and the pulse rate was between eighty and ninety per minute. The weight was 37.2 kilograms and the basal metabolic rate +15.

Resection of Urethral Stricture.

Mr. Hurley's third patient was a man, aged forty-seven years, whom he had relieved of stricture of the urethra by operation after the method of Mr. Hamilton Russell. The patient who had suffered from a left inguinal hernia since childhood and a right inguinal hernia for the previous eight years. He had contracted gonorrhœa twenty-five years before. He had experienced his first attack of retention of urine soon after acquiring the gonorrhœal infection and a second attack four years later. For the previous twenty-one years he had regularly passed soft catheters whenever the urinary stream became small. A perineal abscess had developed and extravasation of urine occurred nine months previously. For this he had been treated in a country hospital, where external urethrotomy had been performed. The patient had been left with a perineal fistula. Six months prior to admission a second external urethrotomy had been performed in the same hospital, but a perineal fistula had remained through which the patient had regularly passed catheters.

When admitted to the Melbourne Hospital on April 15, 1924, the man had had a perineal urinary fistula in the midst of scar tissue. The urine had been very offensive and heavily laden with pus, while the bladder was intolerant and of only one hundred and twenty cubic centimetres capacity. A catheter passed from the meatus had been arrested two centimetres in front of the fistula, through which a No. 6 gum elastic catheter could be passed into the bladder. Large inguinal herniæ one on each side had been easily reducible. Regular bladder lavage through the perineal fistula had resulted in improvement of the cystitis and the bladder capacity had increased to two hundred cubic centimetres. On April 24, 1924, Mr. Hurley had excised the stricture along the lines of Mr. Hamilton Russell's operation. Scar tissues of cartilaginous hardness had been resected and by freely under-cutting and mobilizing the anterior portion of the urethra this had been united without undue tension to the cut edge of the posterior portion of the urethra by five or six catgut sutures uniting the roof of the urethra. The bladder had been drained by a No. 12 gum elastic catheter tied in through the perineal wound; this catheter had been removed on the eighth day following the operation. On the fifteenth day the patient had passed urine *per urethram* for the first time for several months. On the twenty-eighth day No. 12 and No. 15 metal sounds had been passed with ease and a day or two later the perineal wound had healed—four weeks after the first operation.

On May 25, 1924, both inguinal herniæ had been repaired by a modified Halstead operation. Retention of urine had ensued for twenty-four hours and had required catheterization twice. For a day or two afterwards a few drops of urine had escaped from the perineal wound which had completely healed again.

Middle Meningeal Hæmorrhage.

MR. W. A. HAILES showed a girl, aged fifteen years, who twenty-four hours before her admission to hospital had fallen on to the back of her head. She had developed drowsiness, stupor and had finally become unconscious. The pupil of the right eye had been dilated and fixed, a hæmatoma had been present over the right parietal bone and a series of observations indicated that the blood pressure was rising.

Mr. Hailes had trephined the skull and found a large extra-dural clot and the middle meningeal artery still bleeding actively at the *foramen spinosum*. He had effected arrest of the hæmorrhage by ligation of the external carotid. Next day the patient had been quite conscious, but had exhibited signs of a complete paralysis of the third cranial nerve, double vision, ptosis and dilatation of the pupil. These, however, had gradually cleared away in the course of one month. At the time of demonstration the patient suffered from headache, was drowsy and mentally rather dull. A skiagram revealed bony deficiency in the right parietal bone and it was a question whether anything in the nature of a bone graft was indicated.

Multiple Tuberculous Synovitis.

Mr. Hailes's second patient was a man, aged twenty-three years, who had been admitted to the Melbourne Hospital several months previously suffering from tuberculous peritonitis. The diagnosis had been verified by laparotomy and since his discharge the patient seemed to have made considerable improvement with respect to the abdominal condition. Recently there had developed numerous soft swellings on both forearms and wrists. On each forearm there had been some half-dozen soft swellings on the tendon sheaths and between the muscle spaces; these had been aspirated and found to contain caseous material from which no organisms could be cultivated. Interesting features were absence of pain and the fact that there was no limitation of movement. Radiographic examination of the chest showed lesions of pulmonary tuberculosis, but in skiagrams of the forearms there did not appear to be any affection of the bones. No evidence of syphilis was forthcoming by the Wassermann test.

Traumatic Myositis Ossificans.

In the third instance Mr. Hailes showed a male patient, aged twenty-two years, who ten weeks before coming to hospital and while boxing had knocked the ventral aspect

of the right arm just above the elbow joint on his opponent's elbow. Within a few minutes he had noticed stiffening and limitation of movement of the elbow joint. This had increased, reached its maximum seven days after the injury and had persisted ever since. About ten days after the accident he had noticed a bruise on the inner side of the right arm; there had been very little, if any swelling at the time. On examination the forearm had been observed to be in a position of semi-flexion; the movements of flexion and extension had been very much limited although those of pronation and supination were free. Bony induration had been palpable in the lower portion of the biceps and brachialis muscles. A radiogram had shown new bone in the muscles above the elbow joint and an absence of old bony injury. The limb had been placed in plaster of Paris for three or four months and for the last month the patient had been back at work. Mr. Hailes exhibited a second skiagram in order to demonstrate absorption of the new bone. The end result nine months after the original injury was that the patient was capable of almost unimpaired movements at the elbow joint.

Cerebral Diplegia.

Mr. Hailes also showed a patient, the subject of cerebral diplegia, who had received considerable relief of spasticity from the Royle operation of ramisection.

Bacteriophage (d'Herelle) Phenomenon.

DR. F. M. BURNET showed examples of the d'Herelle phenomenon (bacteriophage). A strain virulent against *Bacillus coli* was employed and its effect on cultures in broth and on agar was demonstrated. In broth a turbid specimen containing one hundred millions to two hundred millions per cubic centimetre was rendered limpid in from two to four hours, although a secondary turbidity developed later from the growth of individual bacilli which were resistant to the bacteriophage. The typical development of circular areas in which growth of the bacillus was absent on agar plates (*"taches vièrges"* of d'Herelle) was shown as it resulted when a suitable dilution of the bacteriophage was spread over the surface of medium previously inoculated heavily with the sensitive organism.

Pellagra.

DR. R. R. WETTENHALL demonstrated the clinical features of pellagra as exemplified in a woman, aged thirty-three years.

The clinical history was that sixteen months previously the patient had first noticed a persistent pain, located in the right shoulder and shooting down into the hand. Twelve months previously (May, 1923) the glands in the neck and right axilla had become swollen and at this time the patient had vomited a great deal. In July, 1923, an abscess in the right axilla had been incised and about the same time she had become ill with left-sided pleurisy. The arm had still remained painful. In the next instance the face, hands and feet had become swollen and remained very sore for about fourteen days. The face and hands had swelled up at intervals ever since, although the feet had improved. In November, 1923, a rash which had since extended, had developed on the backs of the hands. For eight months she had suffered from great weakness and dull aching muscular pains. The rash had become more extensive after periods of improvement. Before each exacerbation of the eruption she had experiencd a severe burning sensation over the area on which subsequently developed a bright red rash; the rash later had become scaly and the burning had ceased. About five months previously she had felt very ill for some time and had vomited all her food; since that time the muscular pains had become aggravated. The patient had noticed that her face was always swollen when the pains were bad and one week prior to the meeting the lips and tongue had been sore for the first time. She had never been out of Australia.

Dr. Wettenhall demonstrated the features of a copper-coloured rash which was present on the neck where it followed the outline of a low round necked blouse. It extended on to the chin anteriorly and posteriorly reached the level of the ears. The skin was slightly scaly and on pressure in the area of the eruption the colour disappeared and slowly returned. A similar rash, though more scaly, was present on the forearms and hands, extending above the elbows on the extensor surface and just below them on the flexor aspect. The rash was perfectly symmetrical in its distribution on both forearms; two areas, one in the palm and one at the crease of the wrist, were not affected. The feet showed erythema on the outer sides of the soles and on the great toes; they were sore to the touch. The patient's nutrition was good and she maintained a fair appetite. She had never eaten maize and in other respects took a well-balanced diet.

Dr. Wettenhall supplied detailed notes of close clinical and laboratory investigation. The latter embraced the examination of a test meal, examinations of the urine, fæces and blood. Free hydrochloric acid in the gastric secretion had been found in slightly more than average amount, but was within normal limits. No reaction for indican had been obtained in the urine and in other respects the urinary findings were normal. The leucocyte count was depressed to 3,100 per cubic centimetre. The patient's blood sugar had been estimated as 0.09 milligrammes per hundred cubic centimetres of blood.

Diathermy.

MR. W. KENT HUGHES AND DR. E. W. GUTTERIDGE demonstrated excellent results in the treatment of malignant disease by diathermy. A man, aged sixty-four years, had been affected by epithelioma of the palate which, commencing on the hard palate opposite the first molar tooth, had extended backwards to the left palate. He had first come under treatment in 1922 and after three exposures to diathermy, the last of which was in January, 1924, he had been completely relieved. All that remained to indicate the site of the neoplasm was a soft plastic scar.

Another male patient, aged sixty-six years, had suffered from a large rodent ulcer in the region of the right mastoid process for twenty years. He had received one treatment by diathermy in July, 1923, and showed a plastic scar only.

In the case of a man, aged fifty-seven years, who had formerly exhibited a rodent ulcer involving the tissues of the right orbit and right malar region of twenty years' duration, diathermy had been applied in August, 1923. In January, 1924, a plastic operation had been performed. A flap had been brought from the forehead, both ends being left attached and stitched over the malar region and lower portion of the orbit. A graft of whole skin from the thigh had been applied successfully to the forehead and upper portion of the orbit.

Three other patients in whom very successful results in the treatment of epithelioma and rodent ulcer by diathermy had been obtained, were also shown.

Radium and X-Ray Therapy.

DR. HOWARD F. PRAAGST showed the results obtained by radio-therapy in a number of patients with malignant disease.

The first patient, a woman, aged sixty-one years, had sustained a burn on the upper lip ten years previously. When referred to the X-ray department for treatment in November, 1923, she had displayed an atrophic deficiency in the upper lip. The margins of the hiatus had been nodular and slightly raised. It had been stated tnat the nodules had been increasing in size and number of recent months. The clinical appearances had been those of epithelioma and it had not been found necessary to give any treatment other than a single exposure to radium on November 22, 1923. A clean, smooth scar was the only indication of the former malignant disease.

Dr. Praagst's second patient, a woman, aged forty-five years, had been referred for the treatment of generalized secondary malignant disease in the abdomen, including deposits in the liver.

In May, 1915, she had undergone the operation of subtotal hysterectomy for uterine myomata. At a second abdominal section in November, 1920, a cystic tumour of the ovary had been removed. This had subsequently been pronounced to be carcinomatous by Dr. C. H. Mollison. A recurrence of the disease had led to further operative

measures in 1923 when it was found that secondary deposits of apparently rapid growth were present in the omentum and in the liver. Three-fourths of the omentum had been removed and deep X-ray therapy had been instituted in December, 1923. In the course of two months the patient had been given four exposures and at the end of January, 1924, her weight had increased by five kilograms. A second shorter course of treatment had been given on May 12, 1924, and May 26, 1924, as a precautionary measure although there was no evidence of progress of the malignant disease.

Dr. Praagst's third patient was a man, aged forty-five years, who had been operated upon at the Homœopathic Hospital in 1918 for an epithelioma of the lip and a gland in the left side of the neck. Recurrence of the disease in the left sub-maxillary region had led to further operation in 1921. He had been referred to the X-ray department of the Melbourne Hospital on October 5, 1922, and had then displayed a large, ulcerating malignant mass in the left sub-maxillary area. On October 6 tubes of radium had been buried in the growth. X-ray treatment had been given on October 12 and a second irradiation with radium on November 20, 1922. There had been no sign of recurrence, but it had been considered advisable to allow the patient two prophylactic exposures to X-rays in January, 1923.

Dr. Praagst's fourth patient was a man, aged twenty-nine years, who had been admitted to the Melbourne Hospital on July 9, 1923, to the care of Mr. Alan Newton. The leading clinical facts had been an unsatisfied desire for defæcation, straining and passage of blood and mucus. The period of symptoms had been twelve months, but they had become rapidly worse during the three weeks prior to the patient's admission. Sigmoidoscopy, carried out on July 26, 1923, had disclosed the presence of a ring carcinoma, situated about twelve centimetres from the anus and surrounding and encroaching upon the lumen of the bowel. No evidence of syphilis had been forthcoming when the blood was investigated by the Wassermann test. Laparotomy had been performed on August 2 and had revealed a large fleshy growth extending from the lumen out to the serous coat of the colon. There had also been a large secondary mass occluding the obturator foramen. Mr. Newton had considered the disease too advanced to warrant operative removal and had sent the patient for X-ray treatment. This had been carried out on August 29 and 31 and on September 20 and 24, 1923. Deep therapy had been applied in January and February, 1924. Mr. Newton had seen the patient on June 3, 1924, and had described the improvement as dramatic. The only evidence of disease present at the time of demonstration was some induration in the bowel wall and it was considered by Mr. Newton that the growth was amenable to operation.

Dr. Praagst's fifth patient was a woman, aged fifty-nine years, who had been sent on February 15, 1923, for pre-operative radiation of a large malignant ulcer of six weeks' duration on the dorsum of the left hand. Great improvement had followed exposure to X-rays on February 28, 1923, and irradiation with radium on March 2, 1923. A second X-ray treatment had been given on May 7, 1923, and shortly afterwards another exposure to radium as a prophylactic measure. Enlargement of one of the lymphatic glands in the left axilla had appeared in September, 1923, but it had subsided after one session of X-rays in November of that year. At the time of demonstration there was nothing more than a faint scar at the site of the original ulcer. In the case of this patient no surgical measures had been adopted.

Post-Encephalitic Condition.

DR. H. F. MAUDSLEY showed a female patient, aged eleven years. He gave a brief résumé of her previous history which had been supplied to him by Dr. A. P. Derham. Until the age of seven the patient had been a healthy child. She had been good and obedient and not backward in any way. In June, 1920, she had become ataxic, had developed choreiform movements, was dribbling saliva and had become somewhat dull and apathetic. Her walking had progressively become more difficult and she had evinced no desire to play with other children. From this time on she had varied from time to time. Her walking had seemed to improve on some days, whilst on others she used to fall down. Her original choreiform movements had subsided. Her mentality had varied, at times she had been good and obedient and at other times naughty and perverse. Her memory had been good throughout, but she had made no progress in learning.

Dr. Maudsley said that nothing could be elicited from the family history and that at one time a partial reaction had been obtained from the Wassermann test. He pointed out that she was a well nourished child. Examination of the heart and lungs revealed no abnormality. The child had a somewhat mask-like face, she smiled easily, but the smile was slow in reaching its maximum and slow in disappearing. There was limitation of upward movement of the eyes and absence of wrinkling of the forehead. Otherwise tne cranial nerves were normal. There was no weakness in the voluntary musculature, but there was a generalized spasticity of the *paralysis agitans* type and this was more noticeable on the right side. She had a regular biphasic tremor of the right arm and leg. The deep reflexes were normal and equal on both sides. The abdominal reflexes were brisk and the plantar response was flexor in type. Dr. Maudsley pointed out that when the child's interest was quickened, she was able to walk and run quite well, although she had a tendency to go to the right. The moment her interest failed she fell to the ground and always to the right. Her memory was good, but she made no progress in learning to read or write. At times she was disobedient and almost negativistic. When she fell down, she hurt herself at times, but made no attempt to pick herself up.

Dr. Maudsley said that he regarded the condition as a post-lethargic encephalitis. There was definite Parkinsonism with accompanying changes in personality. The original attack of lethargic encephalitis had evidently been overlooked at the time and had probably occurred some months before she came under medical observation. He had another patient, an adult, who had not been able to come to the meeting. This patient showed much the same condition. In the latter instance the only history of primary infection was that just before the onset of symptoms he had been in bed for three days with "influenza." During this attack he had been somewhat drowsy. As in the patient he had demonstrated, the latter patient showed a similar inhibition in carrying out acts, unless he gave his whole attention to what he was doing, or unless his interest was sufficiently aroused.

Dr. Maudsley also showed a male patient, aged fifteen years, who had been a normal child until the age of three years. At this time he had taken convulsions which were frequent and lasted on and off for some months. He had then improved, but had had fits periodically until he was seven years of age. After this time the "fits" had gradually disappeared, but he had developed choreiform movements of his left arm and irregular movements of his head to the right. These movements had persisted on and off for some years, but had been getting worse. He had not been able to go to school and was consequently very backward. He was moderately intelligent as far as his personal experiences went, though his memory was untrained and consequently poor. Mr. Maudsley pointed out that the boy was physically strong and well grown. His involuntary movements had disappeared and there were no neurological signs.

Dr. Maudsley said that the patient had evidently suffered from some form of encephalitis at the age of three years and that this had left some definite physical sequelæ in its train. It was evident that the physical basis of the sequelæ was evanescent and that the movements that persisted, were in the nature of a habit spasm as they had cleared up quite quickly on persuasion treatment. His mentality was already showing signs of improvement and he was losing his self-consciousness. The patient took great interest in all that went on around him and Dr. Maudsley thought that the ultimate prognosis should be fairly good.

NOMINATIONS AND ELECTIONS.

THE undermentioned have been nominated for election as members of the New South Wales Branch of the British Medical Association:

ARMSTRONG, EDWARD PATRICK, M.B., Ch.M., 1922 (Univ. Sydney), Butchers' Arms Hotel, Pyrmont.
DINLEY, ROY PATRICK JOSEPH, M.B., Ch.M., 1922 (Univ. Sydney), Unwin's Bridge Road, Sydenham.
HAMILTON, THOMAS, M.B., Ch.M., 1922 (Univ. Sydney), Newcastle Hospital, Newcastle.

NOTICES.

MEMBERS of the Queensland Branch of the British Medical Association are notified that the Annual Dinner will be held at the Belle Vue Hotel on Thursday, August 7, 1924, beginning at seven o'clock p.m. SIR G. A. SYME, K.B.E., will be the guest of honour.

The cost will be twenty-seven shillings and six pence for each person and members wishing to be present are requested to notify the Honorary Secretary, Dr. R. Marshall Allan, M.C., B.M.A. Building, Adelaide Street, Brisbane, not later than Thursday, July 31. Applications should be accompanied by a cheque for the above amount. It is hoped that as the date of the dinner is near Show Week, a number of country members will be visiting Brisbane and will be able to attend.

A general meeting of the Branch will be held on August 8, 1924, when Sir George Syme will read a paper before the Branch. The meeting will be held in the B.M.A. Building, Adelaide Street, at 8.15 p.m.

Obituary.

WILLIAM BAIN WALTON.

IT is with much regret that we have to announce the death on July 3, 1924, of Dr. William Bain Walton, of Homebush, New South Wales.

HENRY CHARLES VARLEY.

THE death resulting from a climbing accident at Mount Buffalo of Dr. Henry Charles Varley, of Box Hill, Victoria, on July 10, 1924, has caused very widespread regret.

Proceedings of the Australian Medical Boards.

VICTORIA.

THE following have been registered, under the provisions of the *Medical Act, 1915*, as duly qualified medical practitioners:

BORLAND, WILLIAM MCLEAN, M.B., B.S., 1924 (Univ. Melbourne), 32, Kensington Road, South Yarra.
LONGHURST, PERCY AUGUSTUS, M.R.C.S. (Eng.), L.R.C.P. (Lond.), 1900, "Thornbury," 3, Russell Street, Malvern.

Additional Diploma Registered.

CUSCADEN, WILLIAM GEORGE HENRY, F.R.C.S., 1924 (Edin.).

Name of Deceased Practitioner Removed from the Register.

THOMAS, JOHN CALDWELL.

Name of Practitioner Removed under Section 7 of the Medical Act, 1915.

HEWER, GEORGE FREDERICK.

QUEENSLAND.

THE undermentioned have been registered, under the provisions of the *Medical Act of 1867*, as duly qualified medical practitioners:

CHALMERS, ALEXANDER WILLIAM, M.B., 1922 (Univ. Sydney), Goondiwindi.
DAVIS, NORMAN ERNEST, M.B., Ch.M., 1921 (Univ. Sydney), Kingaroy.
GILLIES, CLYDE DOUGLAS, M.B., B.S., 1924 (Univ. Melbourne), South Brisbane.
HIRSCHFELD, OTTO SADDLER, M.B., B.S., 1923 (Univ. Melbourne), Brisbane.
MCLEAN, GORDON ALEXANDER, M.B., Ch.M., 1924 (Univ. Sydney), Toowoomba Hospital.
O'BRIEN, MARK, L.R.C.P., L.R.C.S. 1896 (Edin.), L.F.P.S., 1896 (Glasg.), Brisbane.
SUNDSTRUP, HENRY ARTHUR, M.B., Ch.M., 1924 (Univ. Sydney), East Brisbane.
SWORD, DONALD CHARLES CAMERON, M.B., 1924 (Univ. Sydney), Ascot, Brisbane.

Correspondence.

FOREIGN BODY IN THE TRACHEA.

SIR: Recent correspondence in your journal by Drs. Lionel D. Cowling and Walter J. Hull concerning respiratory obstruction by peanuts calls to mind a case we had at the Renwick Hospital, Sydney, in 1918. The patient, a boy of two and a half years, was admitted with bronchopneumonia. After two weeks his condition was much worse. Chiefly because of localized clinical signs, fœtid breath and general cachexia with nocturnal rise of temperature, I suspected a suppurative condition due to a foreign body in the lung. Though the history showed nothing in this direction, an X-ray examination was performed. No foreign body was found by this means.

Some little time later, however, during a sudden violent fit of coughing the child expelled a quantity of pus in which half a small peanut was found. Thereafter recovery was rapidly progressive.

Throughout the illness no unusual respiratory embarrassment was present. The child's colour was not cyanotic, but markedly sallow. His general condition was so rapidly wasting, that I am convinced he would not have lived a week longer, but for the fortunate and timely expulsion of the foreign body.

Yours, etc.,
MACCREDIE LUKER, M.B., Ch.M.

183, Liverpool Street, Sydney,
June 12, 1024.

Books Received.

ÉTUDES MÉDICO-RADIO-CHIRURGICALES SUR LE DUODÉNUM, par Pierre Duval, Jean-Charles Roux et Henri Béclère; 1924. Paris: Masson et Cie; Demy 8vo., pp. 270, illustrated. Price: Frs. 35, net.

DISEASES OF THE NOSE, THROAT AND EAR, Edited by A. Logan Turner, M.D., F.R.C.S. (Ed.); 1924. Bristol: John Wright and Sons, Limited; Demy 8vo., pp. 435, with 222 illustrations. Price: 20s. net.

DIABETES: A HANDBOOK FOR PHYSICIANS AND THEIR PATIENTS, by Philip Horowitz, M.D.; Second Edition; 1924. New York: Paul B. Hoeber, Inc.; Crown 8vo., pp. 231, with 34 illustrations in the text and two coloured plates. Price: $3.00.

EPIDEMIC ENCEPHALITIS (*ENCEPHALITIS LETHARGICA*), by Arthur J. Hall, M.A., M.D. (Camb.), F.R.C.P. (Lond.), 1924. Bristol: John Wright and Sons, Limited; Demy 8vo., pp. 241, with 17 plates and other illustrations. Price: 12s. net.

BULLETIN X. OF THE INTERNATIONAL ASSOCIATION OF MEDICAL MUSEUMS AND JOURNAL OF TECHNICAL METHODS; Managing Editors, Maude E. Abbott, M.D., Montreal, Canada, and Major James F. Coupal, Washington, D.C. New York: Paul B. Hoeber, Inc.; Demy 8vo., pp. 175, illustrated. Price: $3.00 net.

LECTURES ON GONORRHŒA IN WOMEN AND CHILDREN, by J. Johnston Abraham, C.B.E., D.S.O., M.D. (Dub.), F.R.C.S. (Eng.); 1924. London: William Heinemann (Medical Books), Limited; Crown 8vo., pp. 152, with nine illustrations and four plates. Price: 7s. 6d. net.

ORATIONS AND ADDRESSES, by Sir John Bland-Sutton; 1924. London: William Heinemann (Medical Books), Limited; Royal 8vo., pp. 173, with 51 illustrations. Price: 10s. 6d. net.

CRIME AND INSANITY, by W. C. Sullivan, M.D.; 1924. London: Edward Arnold and Company; Demy 8vo., pp. 268. Price: 12s. 6d. net.

THE SCIENCE AND ART OF ANESTHESIA, by Colonel William Webster, D.S.O., M.D., C.M.; 1924. St. Louis: The C. V. Mosby Company; Demy 8vo., pp. 214, with 39 illustrations. Price: $4.75.

THE TREATMENT OF THE COMMON DISORDERS OF DIGESTION, by John L. Kantor, Ph.D., M.D.; 1924. St. Louis: The C. V. Mosby Company; Demy 8vo., pp. 245, with 64 illustrations. Price: $4.75.

MANAGEMENT OF DIABETES: TREATMENT BY DIETARY REGULATION AND THE USE OF INSULIN, by George A. Harrop, Junior, M.D., with an Introduction by Walter W. Palmer, M.D.; 1924. New York: Paul B. Hoeber, Inc.; Post 8vo., pp. 189. Price: $2.00.

Medical Appointments.

DR. ROBERT DICK (B.M.A.), Senior Medical Officer of Health, Office of the Director-General of Public Health, has been appointed Director-General of Public Health of New South Wales, Chief Medical Officer of the Government, President of the Board of Health, Inspector-General of Hospitals and Charities and Commissioner under the *Venereal Diseases Act, 1918*, as from May 29, 1924, *vice* DR. W. G. ARMSTRONG (B.M.A.), who retires under the provisions of Section 66 of the *Public Service Act, 1902*.

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The following appointments have been gazetted:

DR. ROBERT DICK, as a Government Nominee on the Board of Directors of the Sydney Hospital, *vice* Dr. W. G. Armstrong, whose resignation from the position has been duly accepted.

DR. ROBERT DICK, as a member of the Board for Protection of Aborigines of New South Wales, *vice* Dr. W. G. Armstrong, whose resignation from the position has been duly accepted.

* * * *

DR. J. R. HOBBS (B.M.A.) has been appointed as a Justice of the Peace for the Victoria Magisterial District, Western Australia.

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DR. R. J. DE N. SOUTER (B.M.A.) has been appointed a Resident Medical Officer at the Adelaide Hospital.

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DR. E. S. JOSKE (B.M.A.) has been appointed Certifying Medical Practitioner at Prahran, Victoria.

* * * *

DR. N. E. DAVIS (B.M.A.) has been appointed Government Medical Officer at Kingaroy, Queensland.

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THE undermentioned have been authorized by the Board of Health of New South Wales as Inspectors under the *Cattle Slaughtering and Diseased Animals and Meat Act, 1902*: DR. H. F. ALSOP (B.M.A.), at Mittagong; DR. G. P. ARNOLD (B.M.A.), at Windsor.

* * * *

DR. L. LE SOUEF (B.M.A.) has been appointed Acting Chief Resident Medical Officer at Wooroloo, Western Australia.

* * * *

DR. F. J. BURNS (B.M.A.) has been appointed Government Medical Officer at Finley, New South Wales.

Medical Appointments Vacant, etc.

FOR announcements of medical appointments vacant, assistants, *locum tenentes* sought, etc., see "Advertiser," page xviii..

ADELAIDE CHILDREN'S HOSPITAL: Acting Honorary Physician and Acting Honorary Surgeon to Out-Patients.

VICTORIAN RAILWAYS: Medical Officer.

Medical Appointments: Important Notice.

MEDICAL practitioners are requested not to apply for any appointment referred to in the following table, without having first communicated with the Honorary Secretary of the Branch named in the first column, or with the Medical Secretary of the British Medical Association, 429, Strand, London, W.C.

BRANCH.	APPOINTMENTS.
NEW SOUTH WALES: Honorary Secretary, 30 - 34, Elizabeth Street, Sydney.	Australian Natives' Association. Ashfield and District Friendly Societies' Dispensary. Balmain United Friendly Societies' Dispensary. Friendly Society Lodges at Casino. Leichhardt and Petersham Dispensary. Manchester Unity Oddfellows' Medical Institute, Elizabeth Street, Sydney. Marrickville United Friendly Societies' Dispensary. North Sydney United Friendly Societies. People's Prudential Benefit Society. Phœnix Mutual Provident Society.
VICTORIA: Honorary Secretary, Medical Society Hall, East Melbourne.	All Institutes or Medical Dispensaries. Australian Prudential Association Proprietary, Limited Mutual National Provident Club. National Provident Association.
QUEENSLAND: Honorary Secretary, B. M. A. Building, Adelaide Street, Brisbane.	Brisbane United Friendly Society Institute. Stannary Hills Hospital.
SOUTH AUSTRALIA: Honorary Secretary, 12, North Terrace, Adelaide.	Contract Practice Appointments at Renmark. Contract Practice Appointments in South Australia.
WESTERN AUSTRALIA: Honorary Secretary, Saint George's Terrace, Perth.	All Contract Practice Appointments in Western Australia.
NEW ZEALAND (WELLINGTON DIVISION): Honorary Secretary, Wellington.	Friendly Society Lodges, Wellington, New Zealand.

Diary for the Month.

JULY 22.—New South Wales Branch, B.M.A.: Medical Politics Committee: Organization and Science Committee.
JULY 24.—New South Wales Branch, B.M.A.: Branch.
JULY 25.—Queensland Branch, B.M.A.: Council.
JULY 31.—South Australian Branch, B.M.A.: Branch.
AUG. 1.—Queensland Branch, B.M.A.: Branch.
AUG. 6.—Victorian Branch, B.M.A.: Branch.
AUG. 8.—Queensland Branch, B.M.A.: Council.
AUG. 8.—South Australian Branch, B.M.A.: Council.
AUG. 12.—New South Wales Branch, B.M.A.: Ethics Committee.
AUG. 13.—Tasmanian Branch, B.M.A.: Branch.
AUG. 13.—Melbourne Pædiatric Society.
AUG. 13.—Central Northern Medical Association, New South Wales.
AUG. 14.—New South Wales Branch, B.M.A.: Clinical Meeting.
AUG. 14.—Brisbane Hospital for Sick Children: Clinical Meeting.
AUG. 19.—New South Wales Branch, B.M.A.: Executive and Finance Committee; Organization and Science Committee.
AUG. 20.—Victorian Branch, B.M.A.: Council.
AUG. 20.—Western Australian Branch, B.M.A.: Council.
AUG. 22.—Queensland Branch, B.M.A.: Council.

Editorial Notices.

MANUSCRIPTS forwarded to the office of this journal cannot under any circumstances be returned. Original articles forwarded for publication are understood to be offered to THE MEDICAL JOURNAL OF AUSTRALIA alone, unless the contrary be stated.

All communications should be addressed to "The Editor," THE MEDICAL JOURNAL OF AUSTRALIA, B.M.A. Building, 30-34, Elizabeth Street, Sydney. (Telephone: B. 4635.)

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